

Letters to the Editor

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Productivity techniques • Inflation accounting

Sir—Ted King, in his letter on productivity techniques (September 12), pleads for the increased use of techniques such as work study and organisation methods.

Bearing in mind that the basic concepts of work study are at least 75 years old, I wonder why they haven't been more successfully applied across the board in industry.

Possibly the answer lies in the fact that people, be they shop floor workers, clerical workers or management, loathe being told what to do and how to do it.

What many managements and most work study or O and M officers appear to ignore is that, while most operators enjoy working in an efficient organisation, they object strongly to being treated as second-class citizens.

The lessons of the car industry should ring out loud and clear. Unfortunately there are still many work study departments advocating the introduction of boring, frustrating treadmill occupations.

May I suggest a simple philosophy? Accept that the average person goes to work each day hoping that his or her job will give a sense of satisfaction.

This satisfaction is obtained by a sense of achievement. With some people this may be by reaching a high performance in quality and/or quantity. Others need the stimulation of solving problems.

Select the right person for each job, let it be known what is expected of him and help him to achieve this result.

British management, together with its specialist advisers, is in many ways too concerned with fitting people into standard moulds rather than in helping them develop.

Ted King's work study practitioners may well be better employed if they abandon the desire for standardisation and adapt their skills to coaching others to maximum performance.

No doubt this would lead to skirmishes between work study and training departments as to who does what but surely there is room for all, possibly under a new name.

We certainly need new solutions to our age-old problems. It may be achieved by using our existing techniques in new ways. A. E. Williams, 27, Princes Road, Clevedon, Somerset.

Inflation accounting
Sir—You have already published two letters highly critical of the article by John Kay entitled "The historic cost principle must go." It is possible to find still further weak-

nesses in his article but the major criticism must be that he completely fails to understand the purpose of EDB.

The aim of the ASSC is to provide a measure of earnings which allows for the effect of inflation and is comparable between companies. For this purpose it does not matter very much what index numbers are used to measure inflation but it is essential that the same index numbers are used for all companies.

Replacement cost accounting may have a value for internal purposes but the use of different indices for each company introduces a distortion when you are making comparisons. In addition it does not show the impact of inflation on monetary assets and so does not give the full picture.

For these reasons the ASSC has adopted a preferred GPP accounting (based on adjustment of historic cost) to replacement cost accounting. If its proposals are adopted Britain will regain its lead in accounting principles. We will become the first country to show really "true and fair" profits of all major companies on a broadly comparable basis removing the distortions caused by inflation.

A. P. Thompson, The Warren, Briar Hill, Purley.

Industrial health
Sir—Although you have previously published letters from Dr. David S. Ross and myself on this subject, neither of us appears to have caused a flood of correspondence relating to the Robens Report and its implementation in the "Proposals for a Safety and Health at Work Bill" (Department of Employment RB/38 June 1973).

However, I thought that readers of your columns would be interested to know that a symposium was held at the Wolverhampton Polytechnic Management Centre on September 5 to consider the proposed Bill. It is intended that a resume of the deliberations of the invited speakers will be submitted to the Department of Employment as "comments on the proposals".

As the first speaker and "theme setter" for the symposium I will not attempt to summarise the summary but I would commend to all employers and top management an urgent close study of the Bill and its implications, not only with regard to their own responsibilities for industrial health and safety but also the necessity for adequate education, training and research in industrial health management. This point was made by both the

Central Training Council and the Trades Union Council in their written evidence to the Robens Committee, yet public awareness of the requirements in this field of management training seems to be sadly lacking.

P. A. Cartwright, Senior Research Fellow, Department of Social Medicine, University of Birmingham, Birmingham.

Workers' control
Sir—I refer to the letter of Alistair Campbell (September 4) on workers' control, in which he puts the point that in order to achieve it realistically, labour should employ capital. I assume by workers he means those who work, which, hopefully, includes you and me. He refers to painless developments in this direction in various European countries, and such there are. They are, however, except in France, the result of isolated acts by individuals.

He designates this as a revolutionary concept and so it is. With the similar few words expressing the notion that private capital should be abolished, Karl Marx became the ideological impetus for a pretty substantial revolution.

I agree with Mr. Campbell that there can be no real responsible control by those who work over their destinies unless they are both owners and hirers of capital. Property makes you free and freedom makes you responsible. The only trouble is too few people have got it in any real sense, and so our industrial world divides itself into two camps, of those who are or identify themselves with owners, and those who are and who identify themselves with workers—see Joe Rogaly's recent articles.

Ergo, if this is the route to sound and industrial peace, how can this revolutionary concept be achieved without a bloody revolution?

I refer your readers to two works, one "A Message to Melchior" produced privately by H. N. H. Blackburn, and the other "Le Panchaisme" by the French industrialist, Marcel Loichot. In the second, considerable political effect was achieved, as one of the last acts as a result of this book was to introduce legislation limiting the return of capital in favour of those who work with it in France. Its consequences are yet to be seen. In the first, the concept of "a deal" between capital and labour is broadly expounded.

So far as Britain is concerned, I suspect France too, in the long run, no such gradual transfer of industrial ownership can be achieved except with the fundamental and enthusiastic agreement of the electorate.

TV Radio
+ Indicates programme in black and white.

9.25 a.m. For Schools, Colleges. 12.30 p.m. A Chance to Meet—Sir John Betjeman. 1.35 Debrau Canu Debrau Canu. 1.45 The Fanatics. 2.02 For Schools, Colleges. 2.50 Times Remembered... by children from abroad. 3.00 Scope. 3.30 Bobby Charlton—the player, the man, the manager. 4.00 Play School. 4.25 Yogi Berra. 4.35 Jackanory. 4.50 Blue Peter. 5.15 The White Horses. 5.40 Adventures of Parsley. 5.45 News. 7.00 Nationalwide. 6.40 Sykes.

F.T. CROSSWORD PUZZLE No. 2276

ACROSS
1 Military two-step? (3,5)
2 Merry by Jupiter (the rounds) (8)
3 Wagon going the rounds (8)
4 Clergyman a member has to patch up (6)
5 He gets it in university term (8)
6 Aside turned Teddy got ready for press (6)
7 Water supply at home always? Goodness me (4, 1, 5)
8 An auctioneer has to keep on persevering (6, 4)
9 Boxer caught in seething mass (6)
10 Faithful but real depressed (4, 4)
11 Urge to be fairly near so to speak (6)
12 Valve got up to look like a lily (5)
13 Broad on a stretcher (6)
14 Near to giving a disc-jockey a foreign coin (8)
15 Line up your local dignitary (6)

DOWN
16 Sheridan's opponents (6)
17 Everybody on river seeking glamour (6)
18 Grumble at having to get one's teeth into local paper (4, 3, 3)
19 Far from rare to be finished twice (8)
20 During part of play I have become sluggish (6)
21 RIP a lady carved up by stone-cutter (8)
22 Faultless performance mounted on patent cycle (5, 5)
23 Let William see theatre notice (8)
24 Understood how to make mischief lawful (8)
25 Dismantle trestles and go live elsewhere (8)
26 Hereditary factor Virginia finds in foreign capital (6)
27 Ends for a Leatherhead fellow (6)
28 Note Green has to fall back (6)

The solution of last Saturday's prize puzzle will be published with names of winners next Saturday.

BBC 1
+ Indicates programme in black and white.

9.25 a.m. For Schools, Colleges. 12.30 p.m. A Chance to Meet—Sir John Betjeman. 1.35 Debrau Canu Debrau Canu. 1.45 The Fanatics. 2.02 For Schools, Colleges. 2.50 Times Remembered... by children from abroad. 3.00 Scope. 3.30 Bobby Charlton—the player, the man, the manager. 4.00 Play School. 4.25 Yogi Berra. 4.35 Jackanory. 4.50 Blue Peter. 5.15 The White Horses. 5.40 Adventures of Parsley. 5.45 News. 7.00 Nationalwide. 6.40 Sykes.

BBC 2
11.00 a.m. Play School. 11.25 a.m. Open University. 12.30 p.m. News Summary. 1.35 Opinion: In Conquest of... 2.00 The High Chaparral. 2.30 Call My Bluff. 3.30 Show of the Week: The Young Generation Big Top. 10.10 One Part of Eyes. 11.30 News Extra.

LONDON
9.30 a.m. Schools Programmes. 12.05 p.m. Cartoon Time. 12.25 p.m. News. 12.40 p.m. First News. 1.00 p.m. News. 1.15 p.m. News. 1.30 p.m. News. 1.45 p.m. News. 2.00 p.m. News. 2.15 p.m. News. 2.30 p.m. News. 2.45 p.m. News. 3.00 p.m. News. 3.15 p.m. News. 3.30 p.m. News. 3.45 p.m. News. 4.00 p.m. News. 4.15 p.m. News. 4.30 p.m. News. 4.45 p.m. News. 5.00 p.m. News. 5.15 p.m. News. 5.30 p.m. News. 5.45 p.m. News. 6.00 p.m. News. 6.15 p.m. News. 6.30 p.m. News. 6.45 p.m. News. 7.00 p.m. News. 7.15 p.m. News. 7.30 p.m. News. 7.45 p.m. News. 8.00 p.m. News. 8.15 p.m. News. 8.30 p.m. News. 8.45 p.m. News. 9.00 p.m. News. 9.15 p.m. News. 9.30 p.m. News. 9.45 p.m. News. 10.00 p.m. News. 10.15 p.m. News. 10.30 p.m. News. 10.45 p.m. News. 11.00 p.m. News. 11.15 p.m. News. 11.30 p.m. News. 11.45 p.m. News. 12.00 p.m. News. 12.15 p.m. News. 12.30 p.m. News. 12.45 p.m. News. 1.00 p.m. News. 1.15 p.m. News. 1.30 p.m. News. 1.45 p.m. News. 2.00 p.m. News. 2.15 p.m. News. 2.30 p.m. News. 2.45 p.m. 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Businessman's Diary

Marketing at Brighton

THE Institute of Marketing, the British Industrial Marketing Association and the Institute of Export are all running seminars during the Marketing Exhibition 73 to be held at the Hotel Metropole, Brighton, from November 1-4.

The subject matters include "What's new in consumer marketing," "What's new in industrial marketing," and a one-day seminar entitled "International marketing—not a job for amateurs" will be chaired by Mr. Arthur Day, director-general of the Institute of Export.

Stopping fires at Harrogate

EVERY company is susceptible to fire so every company should be interested in the Fire Fighting and Prevention Exhibition at Harrogate from September 18-20. It coincides with the annual conferences of the Chief Fire Officers' Association and the Institute of Fire Engineers.

On show will be one of the largest collections of fire fighting prevention and detection equipment ever mounted in the U.K. Over 150 companies will be displaying their products and services both indoors and outside.

The emphasis this year will be placed upon fire prevention and the security and safety aspects of hotels, boarding houses, factory and office premises and public buildings.

Developing the oceans

INTEROCEAN 73, the second international congress and exhibition for marine research and exploitation, will be held in Düsseldorf from November 13-18. More than a hundred firms from all over Europe and the U.S. will be exhibiting.

The highlights of the exhibition will be the latest developments in marine research and technology, in the methods of extracting and processing natural products from the sea, including crude minerals, controlling pollution, and desalination, among others.

There will also be a conference aspect covering these topics, and the whole enterprise is designed to promote oceanic research and exploitation and to broaden the market outlets of the companies involved in marine development.

U.K. TRADE FAIRS AND EXHIBITIONS

Date	Title	Venue
Current	Chelsea Antiques Fair (cl. Sept. 22)	Earls Court
To-day	Assembly and Fastener Exhibition (cl. Sept. 21)	Bloomsbury Centre, W.C.1
Sept. 18-23	Wood Technik Intl. 73	Earls Court
Sept. 25-27	Electronic Instruments Exhibition	Esso Motor Hotel, Bristol
Sept. 28-29	Street Lighting Exbn. and Conference	Spa, Scarborough
Sept. 28-29	Intl. Filtration and Separation Exhibition	Olympia
Sept. 28-29	Dust Control and Air-Cleaning Exhibition	Olympia
Sept. 28-29	Footwear for Spring Exhibition	Mount Royal Hotel, W.1
Oct. 2-4	Meanswear Exhibition and Convention	Exhibition Centre, Harrogate
Oct. 3-11	Business Efficiency Exhibition	Olympia
Oct. 3-5	Midlands Ind. and Commercial Exhibition	Grand Hotel, Birmingham
Oct. 3-20	Modern Homes Exhibition	Kelvin Hall, Glasgow
Oct. 8-12	Screen Printing and P.O.S. Exhibition	Olympia
Oct. 9-11	Housing and Town Planning Exhibition	Spa, Scarborough
Oct. 15-17	Homes Overseas Exhibition	Midland Hotel, Manchester
Oct. 17-20	Antiques Fair	Cutlers Hall, Sheffield
Oct. 18-20	International Motor Show	Exhibition Hall, Harrogate
Oct. 18-20	Management Services Exbn. and Conference	Olympia
Oct. 21-23	Domestic and Com. Textiles Exhibition	Olympia
Oct. 23-28	International Audio Fair	Aviemore Centre
Oct. 23-28	Highland Trade Fair	

OVERSEAS TRADE FAIRS AND EXHIBITIONS

Current	Title	Venue
Current	International Fair (cl. Sept. 20)	Izmir, Turkey
Current	International Trade Fair (cl. Sept. 25)	Ghent
Current	International Commercial Fair (cl. Sept. 23)	Liege
Current	International Motor Show (cl. Sept. 23)	Frankfurt
Current	Children's Fashion Exhibition (cl. Sept. 18)	Paris
Sept. 19-27	International Machine Tool Exhibition	Hannover
Sept. 19-27	Welding and Cutting Exhibition	Essen
Sept. 19-28	Intl. Data Processing Comm. and Office Org. Exbn.	Paris
Sept. 21-23	Ready Made Garments Fair	Bombay
Sept. 22-27	Intl. Exbn. of Fine Foods and Provisions	Cologne
Sept. 22-27	International Furniture Fair	Milano
Sept. 28-30	International Consumer Goods Fair	Prague
Sept. 28-30	Videocassette Conference and Exhibition	Cannes
Oct. 1-5	Food Processing, Packaging and Distribution	Nagasaki, Japan
Oct. 1-7	Electronics Exhibition	Osaka, Japan
Oct. 1-7	Factory Safety and Hygiene Exhibition	Düsseldorf
Oct. 2-7	Storage, Handling, Distribution Exhibition	Padua, Italy
Oct. 4-14	Motor, Cycle and Sport Exhibition	Paris
Oct. 5-11	International Aerospace Show	Iruma, Japan
Oct. 8-13	British Marine Equipment Exhibition	Tokyo
Oct. 8-14	Food Processing Machinery Exhibition	Milan
Oct. 8-11	Hardware and Household Goods Exhibition	Dublin
Oct. 11-17	Hotel Equipment Exhibition	Frankfurt
Oct. 11-17	International Packaging Exhibition	Gothenburg
Oct. 13-15	International Food Fair	Copenhagen
Oct. 13-15	Souvenirs and Advertising Gifts Exhibition	Salzburg
Oct. 14-21	Trade and Tourism Equipment Exhibition	Milan
Oct. 18-25	British Industrial Technology Exhibition	Bilbao
Oct. 20-25	Women's Ready-to-Wear Exhibition	Paris

BUSINESS AND MANAGEMENT CONFERENCES

To-day	Title	Venue
Sept. 18-20	Glacier Inst.: Learning to Manage (cl. Sept. 21)	Ruislip
Sept. 18-20	Financial Times and BOAC World Energy Supplies	Grosvenor House, W.1
Sept. 18-27	HTS Management: Occupational Testing	High Wycombe
Sept. 25-28	Financial Times: Agreements between Companies	Hilton Hotel, W.1
Sept. 25-27	Urick Management: Finance in Construction	Slough, Bucks.
Sept. 27	Management Games Seminar	Coburg Hotel, W.2
Oct. 1-2	Contractors' Plant Association: Plant Hire	Grosvenor House, W.1
Oct. 2-3	Assoc. Business Programmes: Marketing Seminar	Kensington Close Hotel, W.8
Oct. 8-12	Dunelm College: Management Skills	Dunelm College, Rugby
Oct. 9-10	Financial Times: European Motor Industry	Royal Lancaster Hotel, W.2
Oct. 10-12	Marketing Improvements: Managing a Sales Force	Portman Hotel, W.1
Oct. 11-Dec. 13	Fin. Times and City University: FT-City Course	City University, E.C.2
Oct. 15-18	Computer Power: Systems Management	Cannock, Staffs.
Oct. 15-28	Mitchell Partners: Method Study	Beeston, Notts.
Oct. 16	Ldn. Chmbr. of Comcr.: Angola and Mozambique	69, Cannon Street, E.C.4
Oct. 16-17	Marketing Improvements: Practical Pricing	Portman Hotel, W.1
Oct. 16-17	Fin. Times and Professional Administration: Managing the Company's Money	Royal Lancaster Hotel, W.2
Oct. 16-19	Computer Power: Decision Tables	Cannock, Staffs.
Oct. 18	James Morrell: Forecasts for EEC 73-78	Carlton Tower Hotel, S.W.1
Oct. 18	Bus. and Ind. Training: Cost of Noise	Cafe Royal, W.1

Big new shopping centre for Paris

By José Manser

THE £22m. Centre Commercial Main-Montparnasse, Paris, has opened the doors of its 30 shops and two large stores (Galleries Lafayette and C and A) to the public.

Built on the site of the old Gare Montparnasse it is part of a commercial development which includes the controversial Tour Montparnasse. This is the 210-metre-high office block which has aroused much comment from Parisians.

With shop windows giving on to massive concrete colonnades all round the outside and carpeted interior plazas, the Centre Commercial has all the mid-vulgar luxury quality which has made shopping centres lack, and which has been so successful in France.

British concerns participating include: Burton, of London; Etam, and the ubiquitous Terence Conran with his first Habitat Europe operation. Like shops in the centre, Habitat rent is based on the French method of "credit-bail," which is the property equivalent of hire purchase. The shops pay £3.75 per square foot, 30 per cent of this being geared to the French Government's Index INSEE, and at the end of 20 years the trading space is theirs.

The new commercial centre has yet to prove itself, but as it is within a stone's throw of the Gare Montparnasse which serves the prosperous western suburbs of Paris, and in the heart of a busy commercial and residential area, traders who are in at the beginning are almost certainly backing a winner.

ROAD SAFETY CONGRESS NEXT WEEK IN LONDON

More than 900 delegates from all over the country will attend this year's National Road Safety Congress which is being held at Queen Elizabeth Hall, South Bank, London from September 25-27 and organised by the Royal Society for the Prevention of Accidents.

Sir George Scott, deputy president of RoSPA, will open the congress and on the first day there will be an address by Mr. P. J. Hills, assistant director of the Research Institute of Transport Studies, Leeds University. The speakers representing the Road safety divisions of the Department of the Environment and the Transport and Road Research Laboratory are due to speak. The second day will include police speakers on accident investigation.

Marconi wins major share in Australian TV orders

BY JAMES McDONALD

AMALGAMATED Wireless (Australia) — acting on behalf of Marconi Communications Systems, part of the GEC-Marconi Electronics group — has won the major share of the first batch of orders placed by broadcasting companies for colour television equipment for Australia's colour service. Transmissions are due to start in April, 1975.

After the first orders, Marconi will be supplying equipment worth over \$45m. This includes more than 40 Mark VIII automatic colour cameras, three outside broadcast vehicles, two of the new advanced integral television units, and a quantity of other studio equipment, with bulk orders for monochrome pulse distribution equipment, synchronising pulse generating equipment, vision distribution and line clamp amplifiers.

The orders were won by Marconi against European, Japanese and North American competitors, and follow demonstrations and evaluation of equipment to engineers in Australia and at Marconi's headquarters in Chelmsford.

Sales of the Mark VIII automatic colour camera now total over 150. In addition to Australia and the U.K. they are in use in north and south America, China, east and west Europe, and the Middle East.

The company claims it is the most advanced colour camera in the world, and the only one to be automated in all the technical areas. GEC-Marconi Electronics has also announced that the U.S. Navy is buying British systems capable of overcoming the "Donald Duck" effect which occurs when deep-sea divers' speech. The systems—worth £23,000 with spares—were developed for the Royal Navy by Marconi Space and Defence Systems from Admiralty research laboratories' designs.

The "Donald Duck" effect results from divers having to breathe oxygen-helium mixtures at depths of over 500 feet where air cannot be used safely. The mixture—less dense than air—produces changes in the speed of sound and in voice pitch. The pitch rises to a point where it becomes completely unintelligible.

results, in a series of medical research dives down to 1,000 feet by the Smithsonian Institute, the U.S. It operates on a "time stretching" principle, where each sound is analysed digitally at about one-third, is reconstructed at a slower rate, while the effect of lowering the frequency about one-third of the transmitted value, creating full intelligibility. GEC-Marconi has also announced that sea trials have been completed on a new shallow-submarine underwater telephone system. This is being developed by Marconi Communications Systems to give the Royal Navy an improved underwater voice communication system. Better transmission quality longer ranges is the primary aim and the equipment will eventually replace current water telephones in all RN ships and submarines.

Improvements in the range and intelligibility of this submarine communication have become more important as co-operation of multi-nation navies in multi-nation exercises has increased, and new Marconi systems, the company claims, will be standard equipment internationally available.

Justinian is on Page 8

NUT leader accused of Mrs. Thatcher 'vendetta'

A "PERSONAL vendetta" by Mr. Max Morris, outgoing president of the National Union of Teachers, against Mrs. Margaret Thatcher, the Education Secretary, "is doing her best for the education service."

"I hope Mr. Morris will try to be more rational and moderate in his future contributions to the national debate on education," said Mr. St. John-Stevens, Secretary.

The "season for hashing Education Ministers" had got off to a good start with Mr. Morris' "tirade" at the Trades Union Congress, he said.

"This is the sort ofrodomontade which one has come to expect from Mr. Roy Hattersley, the official Opposition spokesman on education, who cares more for politics than the future of our children, but is entirely inappropriate coming from the president of Britain's largest teachers' union," he told a Federation of Conservative Students conference at Swinburn College, York.

Teachers were fair-minded people and the overwhelming majority would strongly condemn the "personal abuse" to which the NUT president had descended, meat of parental choice which was essential to a free society.

More London schools hit by staff shortage

PUPILS AT another seven schools in the Inner London area will put on part-time schooling week.

Nine schools have already to cut lessons because of a staff shortage.

"In drawing up the revision tables we will try to pre-empt those pupils taking vital exams at the affected schools," a spokesman for the Inner London Education Authority said at the weekend.

Dr. Eric Briault, ILEA Education Officer, has warned there were 25 schools causing serious anxiety.

The authority had hoped hire 800 teachers for the school year, of which 400 needed to cope with the fall of the school leaving age at the start of the new term as this month the authority was 376 teachers short and the situation has not improved since.

Brussels, Belgium October 22-23, 1973

A Comprehensive Two-Day Conference

CAPITAL EQUIPMENT AND INSTRUMENTS FOR THE EUROPEAN HOSPITAL MARKET

Sixteen international authorities from Germany, France, Italy, United Kingdom, Holland, Sweden, Denmark, United States and Yugoslavia will discuss all phases of the European Hospital Market including:

- marketing facts and figures
- pricing and marketing
- government regulations
- new technology
- purchasing practices
- trends and outlooks

FOR INFORMATION AND PROGRAMME PLEASE CONTACT:

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This conference will be concurrent with the INTERNATIONAL EXHIBITION OF MEDICAL AND HOSPITAL EQUIPMENT

TWO IMPORTANT MANAGEMENT MEETINGS IN OCTOBER

4th GOING PUBLIC

speakers from the Stock Exchange and leading City organisations will explain the WHY, HOW and WHEN of this important subject — a "must" for Chairmen and Managing Directors of all private companies.

Fee £20,000—Strathallan Hotel, Birmingham.

26-29th PHASE THREE

and after. Leading specialists including Anne Mackie of the Economic and Social Committee of the EEC, Eddie Robertson of the C.B.I. and labour lawyer Norman Selwyn will examine the new Phase in detail and explore both short and long-term implications for employers large and small.

Fee £115,000—Hotel Belver, Mallorca.

Brochures and further details from — Fleeman Conferences, 224 Chester Road, Streetly, Sutton Coldfield. 021-353 4150.

AVANA GROUP LIMITED

The Annual General Meeting was held on 14th September, 1973 and the accounts for the 52 weeks ended 31st March, 1973 were adopted:—

	1972-73	1971-72
Turnover	£10,525,136	£9,204,079
Group Trading Profit	£ 875,340	£ 593,814
Group Net Profit before Tax	£ 551,454	£ 322,113
Group Net Profit after Tax	£ 330,872	£ 194,113
Group Fixed Assets (less Depreciation)	£ 3,514,681	£ 2,709,543
Group Net Assets	£ 4,616,697	£ 3,887,103

The Group profit before taxation was an increase of 71% over the previous year and derived from an increase in turnover of 14%. The return on sales improved from 3½% to 5½%.

Against a background of escalating costs we have recorded a fair measure of progress.

JULIAN HODGE, Chairman.

A copy of the Company's accounts may be obtained by writing to The Secretary, Avana Buildings, Cardiff, CF1 7YH.

Canadian Pacific Investments Limited

has purchased 2,902,111 Common Shares of

The Algoma Steel Corporation, Limited

from

Mannesmann
Aktiengesellschaft, Düsseldorf

The undersigned initiated this transaction and assisted in its completion

Burns Bros. and Denton Limited

September, 1973

AN ANNOUNCEMENT

LUME S/A - ADMINISTRAÇÃO, PARTICIPAÇÃO.
(Brazil) —

leading company of the

GRUPO EMPRESARIAL LUME
and
THE BANK OF TOKYO LTD.
(Japan)

announce that, duly authorized by both the Brazilian and the Japanese Governments, they have established an association within the limits allowed by the BANCO CENTRAL DO BRASIL in the

SISTEMA FINANCEIRO FINANCILAR

and that the first part of the agreement has been completed in the

FINANCILAR BANCO DE INVESTIMENTO S/A
and
FINANCILAR, CRÉDITO, FINANCIAMENTO E INVESTIMENTOS S/A

DIRECTORS:

PRESIDENT: LYNALDO ALFREDO UCHÔA DE MEDEIROS

1st VICE-PRESIDENT: ANTÔNIO FRANCISCO TÔRRES

VICE-PRESIDENT: ALVARO AMERICANO

VICE-PRESIDENT: FUMIO HASHIMOTO

DIRECTOR: NELSON DOS SANTOS ORTEGA

DIRECTOR: SYLVIO DE BULHÕES

DIRECTOR: TERUO TOMIZUKA

LUME S/A Administração, Participação
Av. Rio Branco, 147-11o andar-Rio de Janeiro-GB-Brasil
THE BANK OF TOKYO LTD.
6-3 Nishimbashi Hongokuchō 1 Chome Chuo-Ku Tokyo/Japan

Lyons plans to restore old Hop Exchange

BY PETER RIDDELL, PROPERTY CORRESPONDENT

LYONS AND CO. proposes to restore the old Hop Exchange in the City of London, the site of the old Exchange, in a floor area of 151,000 square feet and containing 58,000 square feet of office space. The company has made a submission to Southwark Council support in restoring the building and for a larger office development. Lyons, which has a permit for creating to the only premises of its 100 square feet of offices on the site, but this expires next January.

Guild Sound and Vision moving to Peterborough

FINANCIAL TIMES REPORTER

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Highshore pays £1m. for N. Finchley houses

FINANCIAL TIMES REPORTER

HIGHSHORE PROPERTIES has just under £1m. for a series of residential properties covering about 6 acres in North Finchley, London, North. The houses are numbers 127, 147, Holden Road, N.12, near outside Park station, and the company has submitted two applications for about 100 units, consisting of one, two and three-bedroom flats, town houses, and detached houses. White Michael is the selling agent.

Population growth 'basic reason for inflation'

FINANCIAL TIMES REPORTER

LOWING WORLD population is the basic reason for inflation, leading conservationist claimed in a weekend. It was also the cause of the rising prices of commodities such as wheat, oil and timber, Mr. Ralph Verney, chairman of a government working party on management of natural resources, said. It follows that we must be concerned about and attempt to curb the wastefulness and inefficiency of the affluent society. Ninety-five per cent of concrete was made with gravel or crushed limestone, and a large quantity of the quarrying of the material for the production of concrete is a waste of energy. Ninety-five per cent of concrete was made with gravel or crushed limestone, and a large quantity of the quarrying of the material for the production of concrete is a waste of energy.



Profits pass £1 Million—up 90%
Another substantial increase forecast

RESULTS Profit before tax for the first time has exceeded £1 million, a 90% increase over the previous year. Net profit after tax and minority interests increased from £414,000 to £901,000, an increase of 118%.

A higher proportion of profits will be distributed in dividends as soon as permitted.

PROSPECTS The rate of expansion is very fast with new Divisions planned. Merchant bankers have been instructed to seek out for purchase the best firms similar to our own on the continent.

The last four months trading in the current year to the end of June has started extremely well and another record year with a very substantial increase in turnover and profit is forecast.

Copies of Annual Report on request from

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Interest rates on Deposit
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As required by the Bank of England the interest rate on Deposits of less than £10,000 at 12 months notice of advance has been reduced from 11% p.a. to 9% p.a. with effect from 12th September, 1973.

Other rates and terms unchanged.
For further details contact:
Julian S. Hodge & Co. Ltd., Deposit Dept. F.T.
Julian S. Hodge Building, Newport Road, Cardiff.
Telephone: 42377.



The wide-screen VW 1303 Beetle with self-stabilising steering

New steering system for Beetle models

BY DAVID WALKER

SELF-STABILISING steering similar to that on the Volkswagen Passat range, the new generation of models unveiled by the German company in June, is to be fitted to 150 members of VW's Beetle range.

This safety measure is among a number of improvements to the Beetles for 1974 announced by Volkswagen.

The self-stabilising system maintains a car on a straight course under braking, even if a front tyre has burst or the wheels on one side are on a slippery surface.

The front suspension is set automatically to counteract the outward pull on the front wheels exerted under braking, thus keeping the car on a straight line.

The two cars to be fitted with the system are versions of the 1300 Beetle, the wide wind-screened car introduced here last year. The 1300cc model will be imported to Britain in volume, while its 1600cc counterpart, the 1303S, is to be available to special order.

Changes affecting the entire

Double Diamond drive in Belgium

By Kenneth Gooding

ANOTHER BRITISH beer brand is to go on sale in Belgium this month. Allied Breweries has signed an agreement to cover bottling and distribution in Belgium of Double Diamond pale ale, the group's top-selling brand.

Belgium is the only Continental country where British-style beer is consumed in any quantity—although by far the greater part drunk is still the lager type—and has attracted plenty of competition among U.K. brewers.

Already lined up in the market are Bass Charrington, Watney, Mann, Whitbread and Young of Wandsworth. Bass and Watney also own major breweries in Belgium.

Allied, the Ind Coope-Tetley Walker-Ansell combine, which has established its own Common Market base in the Netherlands, has completed a deal with Willeman-Couppens, fifth largest of the Belgian brewers.

Willeman distributes throughout the country and has 2,500 outlets tied by loan, most of them in the Brussels area.

Allied intends to back the Double Diamond launch with intensive advertising and promotional support. It will put the main emphasis on bottled DD, but the draught variety will also be made available. It will introduce a special take-home pack for the Belgian market, where almost half the beer consumed is drunk at home.

Broader approach to EEC company law harmonisation urged

BY MICHAEL BLANDEN

ARGUMENTS FOR a "somewhat first fully appreciated," he went on.

He suggested that a start should be made by "identifying those basic requirements which are fundamental to any system designed to regulate effectively the conduct of limited companies and to secure adequate protection for the providers of both equity and loan capital, for creditors and third parties, and for national and Community interests."

Mr. John Grenside, vice-president of the Institute of Chartered Accountants in England and Wales, said that there was a great deal of flexibility and adaptability in the U.K.'s regulatory system "which contrasts strongly with the more rigid and legalistic approach of some of our European partners."

The problems arising from this were evident particularly in the context of company law harmonisation. The proposals of the EEC Commission had been arrived at before Britain's entry to the Community, against the background of legal systems, corporate regulations and financial environments which were in many respects unfamiliar in the U.K.

Speaking at a dinner of the North West Society of Chartered Accountants Conference at Lancaster University, Mr. Grenside said: "We should all acknowledge the immense amount of valuable work the Commission's officials have already done in the sphere of corporate regulation and financial reporting."

The accession of the U.K. had introduced "a new dimension and special problems, the magnitude of which was not at

CHANCELLOR FLIES TO TANZANIA

Mr. Anthony Barber, Chancellor of the Exchequer, flew from Heathrow Airport, London, to Dar-Es-Salaam, Tanzania, yesterday to attend the Commonwealth Finance Ministers' meeting. Accompanying him on his RAF Comet flight were Lady Tweedsmuir, Minister of State at the Foreign Office, and Mr. John Knott, Minister of State at the Treasury.



Have you got your finger in the wrong pie?

You need heat as well as motive power in order to manufacture. But that doesn't mean you have to look after a fuel business; diverting your energy and resources, creating overheads. You'll already be using electricity; do you really need to consider any other form of energy? Electricity is constantly proving its

ability to replace combustible fuels—economically and practically. Electricity can lift a company right out of fuel handling, allowing management time and talent to be fully occupied on the real business—making a profit. If this sounds like a profitable line of enquiry, call in your Industrial Sales Engineer. He's at your Electricity Board.

Electricity does industry a power of good

The Electricity Council, England and Wales.

Italy increases its base discount rate by 2.5%

BY ANTHONY ROBINSON

ROME, Sept. 16.

THE ITALIAN base discount rate of 9.5% will yield 9.84 per cent after the 2.5% increase. The move is the first since the rate was raised from 4 to 5 per cent in 1968.

At the same time, the former discount rate of 5 per cent, which the Bank of Italy raised to 5.5 per cent in 1972, is being reduced to 5 per cent. The move is part of a package of measures designed to bring the discount rate to 5 per cent, a maximum of 5.5 per cent, and an upward trend in domestic lending rates of 1 kind. The Italian equivalent of the Central Bank's advances on bonds and credits, has also been raised 0.5 from 8.5 per cent.

The Treasury has also increased the discount rate on Treasury bonds from 3.5 to 4 per cent. The move is part of a package of measures designed to bring the discount rate to 5 per cent, a maximum of 5.5 per cent, and an upward trend in domestic lending rates of 1 kind. The Italian equivalent of the Central Bank's advances on bonds and credits, has also been raised 0.5 from 8.5 per cent.

Dutch wage and price controls expected

BY MICHAEL VAN OS

AMSTERDAM, Sept. 16.

THE DUTCH Government is to launch its biggest attack so far on the rampant inflation in the country. It has prepared an anti-inflation package containing a variety of measures, of which the major one, a 5 per cent revaluation of the guilder, was announced on Saturday.

The other measures—about which no advance information has become available—are to be detailed in Queen Juliana's speech from the throne on Tuesday, which will traditionally incorporate the 1974 budget. These measures are believed to come for some sort of controls on wages and prices.

According to the latest indicators the 15.5 per cent wage increase expected this year will be exceeded, while prices are expected to rise about 8 per cent, making the Netherlands one of the most inflation-ridden nations in the industrialized world. Import prices, of crucial influence on inflation in the country with such an open economy, are rising by 6.7 per cent.

Professor Willem Duisenberg, the Socialist Finance Minister, said the new programme constituted a "frugal attack" on the two most urgent problems facing the Government. They are the "alarmingly high" rate of price increases and the persistently high unemployment figure. He added that the package would include measures to offset the adverse effect a revaluation would normally have on the employment position.

The Minister also said earlier this year had not been followed because "we wanted to see the revaluation as part of a co-ordinated anti-inflation package, not as an isolated measure." Moreover, the "exceedingly strong" position of the Dutch balance of payments, which the Ministry used to justify the revaluation, had become increasingly evident in recent months.

The current surplus over the period mid-1972 to mid-1973 was at least \$15,000m. After correction, this amounted to \$13,500m. This was considerably higher than the desired level of \$11,000m, aimed for by the Government, and \$18,000m, aimed for by the market.

Professor Duisenberg added that a proposal would be submitted to the EEC Council to the effect that lower prices resulting from the revaluation were reflected in the Dutch agricultural products. To prevent an unfair loss of income in the agricultural sector, a temporary compensation would be arranged in the form of certain tax reductions.

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Apart from Levitin-Krasnov, the other signatories to the statement were scientists Gregory Podyapolsky, mathematician Tatiana Telikova, biologist S. Kovalev, and linguist Khodorovich. At least four of the people who signed the group's first appeal to the United Nations in 1980 are now held in prison camps or mental hospitals.

Meanwhile Prof. Andrei Sakharov said in an interview released here today he had accepted in principle an offer of a professorship at Princeton University in the U.S.

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Chrysler and union look for quick end to U.S. strike

BY GUY DE JONQUIERES

WASHINGTON, Sept. 16.

NEGOTIATORS FOR the two sides appear outwardly far more relaxed than at the outset of the UAW's strike against Chrysler Corporation and General Motors three years ago.

While a prolonged strike could seriously affect the market position of Chrysler, which is the smallest and financially least secure of Detroit's "big three," the company has built up sizeable inventory reserves for the short-term. A Chrysler spokesman said it has 200,000 1973-model cars on hand, a 50-day supply, when the strike broke out. However, it has no new 1974 cars available at present for the new model year which starts in the next few weeks.

The major stumbling-block in the talks appears to be Chrysler's resistance to the UAW's demands for the abolition of mandatory overtime, an issue which has come to symbolise the growing worker discontent in the industry and on which Mr. Woodcock has staked much of his own prestige.

While no precise figures have been mentioned, the general expectation is that the UAW will settle for a wage increase not far above the Phase Four guideline of 5.5 per cent, plus fringe benefits, rather than aim for the higher sum which would risk a difficult confrontation with the Cost of Living Council in Washington.

World Bank achieves its five major targets

BY ADRIAN DICKS

WASHINGTON, Sept. 16.

THE WORLD BANK group countries with an annual per capita income of \$120 or less, intended to "spread the benefits more widely, especially among the poorer sections of society," the report underlines a number of issues of serious concern for the future.

The Report also shows that for the first time, the volume of lending to agriculture by the bank and IDA was higher than that to any other sector last year, and some \$838m. was more than double the 1972 figure. Loans and credits for educational purposes, totalling \$276m., were some 50 per cent above last year's levels, and for the first time extended to projects devoted to primary education as part of the bank's aim "to make educational opportunities more widely available to all population groups" in the countries concerned.

Reviewing progress over the past five years, the report notes the achievement of five targets set by Mr. McNamara at the beginning of his first term. The global total of bank and IDA lending, intended to be doubled, has increased by 128 per cent. Lending to Africa, which was to be trebled, has risen by 214 per cent, and that to Latin America, due to be doubled, has grown by 128 per cent. Lending to agriculture and education, due to increase four-fold and three-fold respectively, has risen by 317 per cent, and 282 per cent. Over 70 per cent of this record volume of "soft" IDA assistance has been directed towards

Within the overall assistance figure, the bank itself made 73 loans worth \$2,051m. to 42 countries, while IDA approved 80 credits worth \$1,357m. to 43 countries, an increase of no less than 38 per cent from its performance the previous year. Over 70 per cent of this record volume of "soft" IDA assistance has been directed towards

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FT2

Soviet group hits out at Kremlin policy

MOSCOW, Sept. 16.

SOVIET human rights group, revived crushed by police, surfaced today to issue a stern condemnation of Kremlin treatment of dissidents.

In a statement delivered to radio newsmen here, five members of the self-styled "Committee for the defence of human rights in the USSR" argued that two of their former members had their "personality taken" by police investigators.

The five—who include religious leader Anatoly Levitin-Krasnov, recently released after serving a sentence for alleged anti-Soviet activities—reasserted charges against top Soviet psychiatrists were involved in sending critics of the Kremlin to mental hospitals which they were sane.

And they expressed their "deep respect" for the worthy and diligent staff of out-of-town hospitals still at liberty.

Systemic Andrei Sakharov and Nobel prize-winning novelist Alexander Solzhenitsyn.

The two-page document charged that Vyacheslav and Viktor Krasnov, two former members of the group who were jailed for five years for co-operation after leading guilty to co-operation with "Fascist regime organisations," had told lies at their trial.

It is tragic that these men are affecting the fate and reputations of all the political prisoners in camps, prisons and mental hospitals in the Soviet Union, the statement declared.

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The consortium building the A-300B sees it as a good basis for fuller integration of the European aircraft industry. Michael Donne, Aerospace Correspondent, reports

Tempting Britain back to the airbus

THE A-300B AIRBUS is growing as traffic densities increase on many short-medium routes, and because of increasing restrictions on aircraft movements as a result of environmental pressures, runway capacity restrictions, night curfews reducing the number of hours any airport can stay open, and congestion in air lanes. It believes the airbus is tailor-made for this market, which is why such emphasis is being placed on the forthcoming U.S. tour.

Increasingly it is being argued on the Continent that if the U.K. Government (which pulled out of the airbus in the late 1960s) is serious in its claims to want such integration, it should join Hawker Siddeley (which stayed in the programme on a private basis) and support the venture financially. This would give a significant boost to future airbus developments.

So far, sales of the A-300B have been slow, as they have been for nearly every other type of aeroplane, including the Lockheed TriStar. McDonnell Douglas DC-10 and Boeing 747 Jumbo jet. In a bid to get sales moving beyond the present 38 aircraft on order or option for five airlines, Airbus Industrie, the combine formed to run the programme, took an A-300B to South America and the U.S. at the end of last week for an extensive sales demonstration tour.

Confident

Airbus Industrie is confident that sales will pick up in 1974 as airlines move further out of the doldrums of the early 1970s, reduce their over-capacity problems, improve their balance sheets and gear themselves to meet expanding air traffic markets. Reports indicate that more than one U.S. airline is eyeing the airbus with interest, and it is hoped that several contracts will materialise before the end of this year.

At present the airbus has no direct challenger. McDonnell Douglas has been thinking of about a "Twin Ten" derivative of its DC-10 to meet the short-haul market at which the A-300B is aimed—routes of 150 to 1,200 miles or so, with heavy traffic volumes—but has not yet decided to go ahead. Lockheed's immediate concern is to get the extended-range version of its TriStar into production and airline service, and does not have any money to put into a new short-haul twin version.

Airbus Industrie believes that the growth of "city pairs"—providing jet services between cities hitherto without direct air links—will create a demand for a high-density, short-haul twin. Also, the demand for a bigger short-haul jet will put it up its own share—the

Two versions

Apart from prototype B-1, the airbus is being built in two versions: the basic B-2 short-range model carrying around 280 passengers over distances of 1,400 nautical miles, and the B-1 medium-range version, with the same payload but a longer range, up to 2,100 nautical miles. The flight test programme is well advanced, with three aircraft flying, a fourth due to fly this autumn and the fifth early next year. More than 670 hours in the air have been logged out of 1,850 needed for Certification, which is expected early next year. In time for deliveries to begin and passenger services to start with Air France in the spring.

Currently, production is geared to two aircraft a month, but this can be raised to four and again further to six a month as demand requires. Parts of airbus Number Ten are already moving into final assembly at Toulouse, the focal point of airbus manufacture. The plan is for ten aircraft to be delivered in 1974 and another 15 in 1975. Six countries are primarily involved in the airbus. Control is vested in Airbus Industrie whose members are Aérospatiale of France, Deutsche Airbus (a German combine including Messerschmitt-Bölkow-Blohm and Vereinigte Flugtechnische Werke), CASA of Spain and Fokker-VFW of Holland. Hawker Siddeley of the U.K. is involved on a private venture basis, building the wings and with an overall design consultancy.

The engines are CF6-50Cs, from General Electric of the U.S., identical to those used in the long-haul version of the McDonnell Douglas DC-10. By mid-1973, a total of around 10,000 workers were involved, of which about 4,000 were at Aérospatiale, around 4,500 at Deutsche Airbus, about 1,000 at Hawker Siddeley and the rest at Fokker and CASA.

Finance is coming directly from the French, West German, a high-density, short-haul Dutch and Spanish Governments, with Hawker Siddeley putting up its own share—the



Building the airbus at Toulouse.

precise amount has never been revealed. The Governments feel, such as the European OTOL. Rather, the U.K. ought to ensure that only one major European wide-body subsonic airliner venture is undertaken, namely the airbus. Already, Airbus Industrie is talking in terms of several variants. In particular, it would like to have the Rolls-Royce RB-311 engine in some future models, and considerable efforts are being made by Airbus Industrie to induce British Airways to buy a version with such engines.

R-R engine

The airbus team is confident it can sell several hundred aircraft. It recognises, however, that what is really wanted for the future is an entire "family" of variants with which to combat American competition—especially from Boeing with its projected "T-X" family of airliners. To do this, it will need not only more money, but also greater industrial strength, without other rival projects splitting the European aerospace industry and weakening the overall effort.

Thus, it is argued by Airbus Industrie that if the U.K. Government really wants a more closely integrated European industry, it would be wrong to press ahead with a

version are also planned.

Beyond these variants, however, the more forward-looking ideas that might prove a bigger temptation for the U.K. Government to get back into the A-300B as a means of pushing ahead with European aerospace integration. Airbus Industrie is hinting that Hawker Siddeley, in addition to building wings for all airbuses, could become the basic centre for production of one or more of these variants. Airbus Industrie sees among these main lines of development a reduced take-off and landing (RTOL) version for short grass strips, bringing jet service to many new places. Another possibility is a four-engine version seating 200 passengers for ranges of 6,000 miles or so, with a variety of engine possibilities, including a derated version of the RB-211. This would be somewhat smaller than the latest Boeing 747 Special Purpose airliner, which has already begun to move into this market, and more like a Boeing 707 replacement in the mid to late 1970s.

Small price

Airbus Industrie privately suggests that this aeroplane could be one of those taken over by Hawker Siddeley at Hatfield, getting Britain back into the subsonic long-haul airliner business. The development cost might be £80m-£100m, a comparatively small price for a stake in the airbus business when shared out among the participants.

These ideas might all seem to be another example of aerospace industry broomrums. To Airbus Industrie, however, they are the logical extensions of what has already become a reality in four or five years since the airbus got moving again in 1969 after Britain had pulled out of the original plan.

Airbus Industrie knows that the immediate task is winning orders. If these do not materialise, all ideas for the future must collapse. On the other hand, its views on the development of the airbus, and how these could fit into the overall European aerospace industry picture, could be the catalyst for the changes many Governments want to see in the industry.

The American industry, led by Boeing, will not wait while Europe makes up its mind what to do. The Airbus Industrie ideas have the tacit support of the French and German Governments. The U.K. Government, with little money to spare for lavish new ventures in the years ahead, could do worse than give them a good look over.

THE WEEK IN THE COURTS

EEC law: a major test by a Surrey garage

BY JUSTINIAN

THERE HAVE already been one or two forensic skirmishes in the English Courts with European Community law, but the decision of Mr. Justice Bridge in *Esso Petroleum Company Ltd. v. Mardon* (Addendum) (to be published in the October edition of *Common Market Law Reports*), marks the first substantial involvement of the English judiciary with the Treaty of Rome.

It is not just the fact that a litigant sought unsuccessfully as it turned out, to defeat an oil company's solus agreement with the oil company to supply its customers exclusively with one brand of petrol—but that the judge indulged in an exposition of the relevant Community law that will be avidly appreciated by the legal profession.

Not surprisingly, it is Article 85 (and the Regulation—No. 17 of 1962) which comes under the microscope. For that Article embodies the law prohibiting restrictive practices, the argument was that the petrol station, a garage on the Brighton Road, in Addlestone, Surrey, was that the law in this country changed on January 1, 1973, to the effect that this and every other petrol station up and down the country was struck down and invalidated by Article 85.

Judge's decision

The judge's starting point was a consideration of that much-discussed provision of the Rome Treaty. He decided, in conformity with the jurisprudence of the European Court, that agreements like the solus agreement were potentially within the prohibition of Article 85, as having as their object or effect the prevention, restriction or distortion of competition within the Common Market. But such an agreement is not within Article 85 per se. Whether or not it is caught within the restrictive practices depends on all the surrounding circumstances, and not upon the terms of the individual agreement considered in isolation.

The judge then proceeded to analyse the complex machinery established to govern the exercise of the power in Article 85 for declaring the provisions applicable or inapplicable to particular agreements or categories of agreements. In summary, Regulation 17 of 1962 provides that the exclusive power to make declarations clearing or condemning agreements is vested in the European Commission—subject of course to review, if necessary, by the

European Court in Luxembourg. But so long as the Commission has not initiated any of the proceedings by which the Commission, either on application of parties to an agreement or of its own motion, considers the status of such agreement, then the authorities of the member states (including each country's courts of justice) remain competent to apply Article 85. As that is so, even though certain time limits for notifying the Commission of agreements have not expired, the petrol station proprietors could properly raise the issue of the solus agreement in proceedings before an English Court.

The Regulation then goes on to classify agreements in two ways. The first classification concerns "old" and "new" agreements. When Regulation 17 was first promulgated back in 1962, "old" agreements were those entered into before the making of the Regulation. For those countries which joined only when the Community was enlarged on January 1, 1973, "old" agreements referred to pre-1973 agreements. The solus agreement was an "old" agreement, having been made in December 1969, to last for five years.

Must be notified

The second classification concerns the notification of agreements to the Commission, the object being that the Commission can then consider whether or not the agreement was exempt from the prohibition in Article 85. There are agreements which must be notified and those where it is optional whether notification is given. For those that are compulsorily notifiable, and are "old" agreements, notification must be made within six months of the entry into the Community of the country where the agreement was made. (The six months had not elapsed before Esso sought to, and did, obtain an injunction to restrain the petrol station from selling some brand of petrol other than Esso's.)

What, and who, decides the status of a potentially invalid agreement in the interim period which must inevitably elapse before the Commission can exercise its exclusive power to declare the status of an agreement? Here, Mr. Justice Bridge dutifully considered and applied two major decisions of the European Court. In the first case the point raised and answered was: when is an agreement compulsorily notifiable? The answer is, if it concerns import or export between member-states. The European Court said in relation to the brewery agreement—a tied agree-

ment just like that for petrol stations—that an agreement between a firm and an independent retailer engaging the latter to obtain his goods exclusively from the former, both established in the same country and where the carrying out of the agreement does not imply that goods in question cross national borders, does not constitute an import or export. The decision demonstrably established that the solus agreement was exempt from compulsory notification.

The crucial issue thus was an "old" agreement, which not subject to compulsory notification, provisionally valid. Again the same decision, although couched in less clear and equivocal terms. Mr. Justice Bridge found that, whatever obscurities of unfamiliar language—he had an English translation of a judgment in man—in the absence of a cogent indication to the contrary, the national judge has, during the interim period before it has been any declaration by Commission, to consider the status of an agreement whether it is in the non-notified category. If it is in that category, the judge is to consider whether the agreement is valid not struck down by Article

Same conclusion

Mr. Justice Bridge helpfully pointed another route by which he could come to the same conclusion. In another, very recent decision of the European Court it was said of "old" agreements that legal certainty as regards contracts requires that a contract cannot, particularly when agreement has been notified in accordance with Regulation (and the more so if there has been no requirement to notify or the time for notification not yet expired), be declared a nullity until the Commission has made a decision.

Hence the solus agreement (the limited period of five years which has elapsed) is not subject to the nullity of a House of Lords decision, as affording no legitimate commercial interest, and adequate protection to a legal assault from the quarter of the Rome Treaty. And answered was: when is an agreement compulsorily notifiable? The answer is, if it concerns import or export between member-states. The European Court said in relation to the brewery agreement—a tied agree-

Ultra contract for £1.6m. for sonobuoys

THE MINISTRY OF Defence (Procurement Executive) has awarded a £1.6m. contract to the sonar and communications division of Ultra Electronics for passive sonobuoys. It is the third order worth over £1m. the division has won from the Ministry in four years.

The sonobuoys in the new contract are improved versions of the ones now in production and have been developed further for use with Nimrod aircraft.

The company's order books are at "record levels," says Mr. Brian D. director and general manager of the sonar and communications division.

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(From comments made at the annual stockholders meeting)



ROGER E. ANDERSON
Chairman

JOHN H. PERKINS
President

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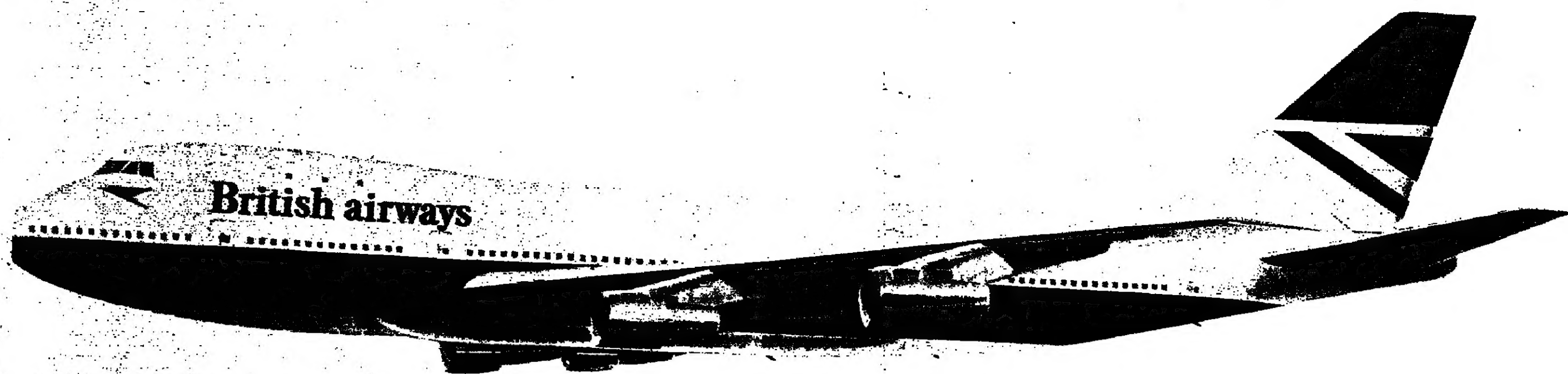
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Continental Bank International (Pacific), Los Angeles

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INTERIM STATEMENT

Lex Service Group

Interim Results to 30th June, 1973

Lex Service Group Limited announce that, subject to audit, the half yearly pre-tax profits to the 30th June, 1973 amount to £4,166,000, compared with £3,604,000 for the first half of 1972, and that an Interim Dividend is declared of 1.3125p per share which, together with the tax credit applicable to the dividend under the imputation system of taxation, is equivalent to a gross dividend of 1.875p per share or 7½% (1972-73%). The Interim Dividend will be paid in January, 1974 to holders registered as at the close of business on the 30th November, 1973.

Harvey Plant Holdings Limited

The offer for the whole of the issued share capital of Harvey Plant Holdings Limited has now become unconditional. Harvey Plant concentrates on the fork-lift truck and crane hire markets and is therefore less affected than other plant hire companies by the problems of the economic cycle of the construction industry.

An increasing proportion of Lex Service Group's turnover and profit is today connected with the economic cycle of industrial activity rather than with consumer durable sales. The industrial marketing activities covering the Company's interests in commercial vehicle distribution, plant hire and distribution, and in transport services, stand to benefit from the continuation of the boom in industrial investment which is forecast by the leading economists.

The Cavendish Land Company Limited

At the end of August, 1973 Legal and General Assurance Society Limited announced an agreed bid for the whole of the issued share capital of The Cavendish Land Company Limited, 15.54 per cent of which is held by Lex Service Group. The offer will be subject to certain conditions. It is the Directors' intention to accept the offer on behalf of the Lex holding which would realise approximately £7,100,000. This would show a profit of £3,400,000 which, in view of available capital losses brought forward, it is anticipated would not be subject to capital gains tax.

Copies of the Interim Report may be obtained from the Shareholders Relations Department, Lex Service Group Limited, Lex House, 3-5 Burlington Gardens, London W1X 2QQ.

Lex Service Group

SPORT: RUGBY UNION... YACHTING

England deserve victory

BY DAI HAYWARD

AUCKLAND, Sept. 16

PLAYING HARD, aggressive Black defenders into a ruck, then fed the ball back cleanly. Often when New Zealand gained possession from a line-out, English forwards, particularly Utlier and Watkins broke through, bustled New Zealand's scrum-half, Going, and ravaged the New Zealand backline. England's No. 8, Ripley, really lived up to the title of "White Tiger," applied jocularly to England's team by some New Zealand sports writers. In the loose, he never let up and in defence he was a solid bastion. Star of the England team and architect of their win was scrum-half Jan Webster. He won his duel with Sid Going to the extent that, once towards the end of the match, Going showed signs of peevishness at being unsettled and forced off his game by Webster.

Several Going breaks around the scrum and attempts to send the New Zealand back-line away were thwarted by Webster, who showed brilliant anticipation and speed. Even a deliberate All Black attempt to trap him into offside failed.

Expected duels between both pairs of star wingers, Duckham and Squires and New Zealanders, Williams and Barry, did not happen because the ball seldom reached them. On the day, however, Duckham was the best of the four.

Match star

The performance of the backs was good, with clean, crisp passing, hard tackling and fast running play, but the major credit for victory rests with a fearless English pack which held New Zealand, won ample ball for the backline, provided extra cover defence when needed and, most important of all, went into rucks and mauls with vigour and fire not previously seen.

All eight forwards put their heart into the game, reaching a high peak of performance individually and as a pack. In scrums they often lifted the All Blacks from the line-out, and they then held their own, providing Webster with plenty of good, clean ball.

Frequently they drove forward from the line-out, drew All

Blind side

Preece and Old combined well and made many penetrating thrusts.

The match started badly for England, under pressure from the All Blacks kick off. With only four minutes gone the New Zealanders were on the ten-yard mark. Wylie, the New Zealand No. 3, stood off the ruck, picked up the ball and slipped it to

sidestepped Squires to scooping England four points down.

England came back, however, with forwards producing so magnificent drives and equalling magnificent kicking. They carried play downfield, unsettled All Blacks in set scrums, one which gained England a penalty on the 25-yard line. Wylie ran the ball inside, broke it through New Zealand's forwards and fed it back to his centre. The ball went loose as New Zealand defended hard, but Preece retrieved it and scored. R.borough converted to 10-0.

After 25 minutes All Black forwards were driving up. England's defence was good, slipped back. Hurst snapped a high pass, found a narrow and cut through to go England again trailed, 10-0.

At this stage England had a slight edge, but the game could have gone either way.

In second spell they were press with forwards providing spearhead of attack. When Blacks failed to clear, Web sprinted several yards and kicked. Stevens snapped the ball pushed forward, was caught, threw to Ralston who needed He passed back to Stevens made it to the line. Rossborn converted to put England in at 12 points to ten.

The All Blacks were still in hard and the game seemed England having the best of play. With only five minutes gone England were under pressure. Webster put it beyond doubt. He high-kicked, followed up fast, and with forwards in support he stopped New Zealand's fullback, Lendrum, from clearing England's captain, Pullen, carried off by his forward tribute. The jubilant vic certainly had something to match in the showers after

Solent win for Morning Cloud

BY ALEC BEILBY

FOLLOWING THE debacle in the Fastnet Race, and the consequent loss of the Admiral's Cup by the British team, the crew of Mr. Heath's Morning Cloud have been racing in the Solent since mid-August with a fervour that can be compared with that shown during the Admiral's Cup team selection trials earlier this summer. At the weekend they won the 11th race in the 13-race Solent points series.

Sailing from Hamble to Yarmouth on Saturday and back yesterday, the race, organised by the Royal Southern Yacht Club, was one of the traditional events of the late season in the Solent. On Saturday the course was extended to bring the race up to Force 3 (10 to 12 mph) she flies the required distance to qualify

as a Solent points event and to produce some windward work over a predominantly westerly course set in a predominantly easterly wind.

Prior to the start, Morning Cloud and Robin Aisher's Frigate were level on the Solent points series, each with three wins over the other, and with the outcome depending on the last three races.

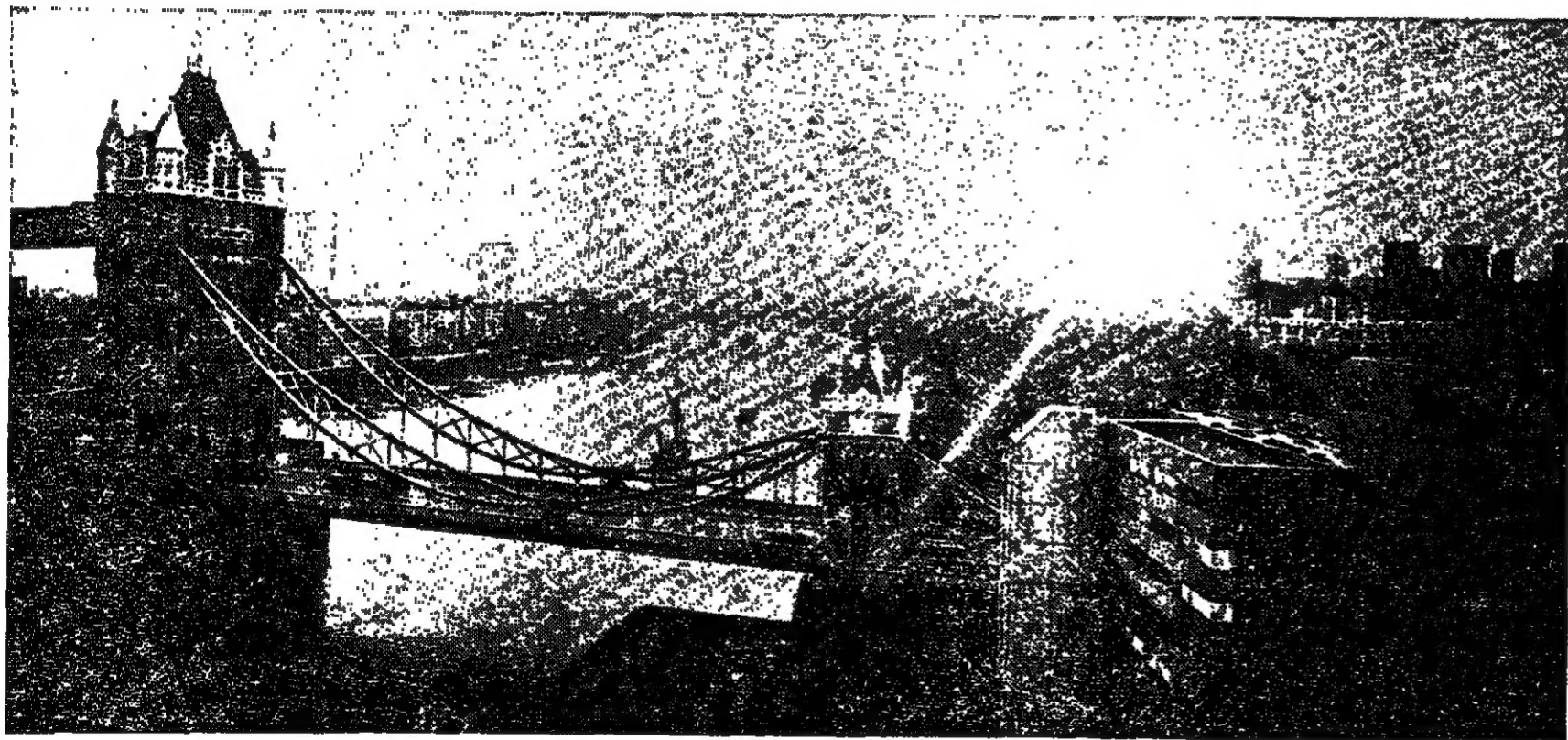
The race began in light wind, favouring the smaller Frigate. As the fleet began a circuit of the Eastern Solent before flying off on a downward tangent westward to Yarmouth, the wind freshened, and Morning Cloud was revelling in the elements that best suit her. There is no doubt that in winds of more than Force 3 (10 to 12 mph) she flies. While most crews chose the

middle route on the first westward, John Preece aboard his Swan 44 Battle stayed by the Isle of Wight and this paid him well. He and his crew finished second, but his great rival of the season, Superstar of Ham, three minutes astern in 1 place.

Frigate stayed in mid-So with Morning Cloud but boxed in by smaller yachts at turn, eventually finishing seventh.

The Royal Ocean Racing Club selectors have been deliberating over the team for this year's Southern Cross Trophy, a trilateral answer to the Admiral's Cup. It now seems that choice must be Morning Cloud. Donald Parr's Quailo III, Arthur Slater's Prospect Whitty, which replaces Fri-

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Assam and African Investments Limited

The Tenth Annual General Meeting of Assam and African Investments Ltd. was held on 14th September, 1973 at 40, St. Mary's, London E.C.3.

Sir Hugh Mackay Tallack, the Chairman, in the course of his review circulated with the Report and Accounts for the year ended 31st December, 1972 made the following points inter alia:—

ACCOUNTS AND DIVIDEND

The Group profit for the year before charging taxation was £742,592 compared with £698,255 for the previous year. Taxation absorbed £483,870 (1971 £309,002) and after other adjustments there remained a balance of £258,722 (1971 £290,391) available to the Ordinary Shareholders.

The Board has recommended an ordinary dividend of 2.8 pence per share which, with the tax credit under the new imputation system of United Kingdom Corporation Tax effective from 6th April, 1973, is equivalent to 4 pence per share and to that paid for the previous year.

OUTPUT, SHIPMENTS AND PRICES

In 1972 the Group's output was 12,080,253 kgs. compared with 11,482,198 kgs. in 1971. This increase maintained an upward trend which, apart from 1969 when certain gardens were affected by drought, has continued annually without interruption since 1965, in which year the output of the same estates totalled 9,944,693 kgs.

London market prices for the higher quality early Assam teas were again unspectacular, but those for the main weight of later teas remained unusually steady. The Group's final average price for 5,469,397 kgs. sold in London was 45.09p. per kg. compared with 43.03p. per kg. for 5,078,179 kgs. of the 1971 crop.

Despite retention for sale in India of a larger proportion of the overall North Indian crop, the total quantity on offer was absorbed, albeit at a slightly lower price level than that of the previous year. The Group's final average price for 6,500,385 kgs. of the 1972 crop sold in India was Rs.7.04 per kg. compared with Rs.7.28 per kg. for 6,297,057 kgs. of the 1971 crop.

OPERATING EXPENDITURE AND GARDEN WORKING

During recent years much has been done to contain our unit cost of production and this will continue to be a prime objective subject to the essential need to maintain high standards of husbandry and manufacture. Towards this end an important factor has been the progressive increase in crop which has resulted not only from new planting but also to a significant degree from constant advances in cultivation techniques. In this context it is unfortunate that supplies of essential items such as fertilisers and weedicides are not always readily available.

Despite all that has been done we are faced year by year with a continuing rise in expenditure, much of which stems from factors outside our immediate control. In this respect 1972 was no exception.

In addition to the substantial liabilities imposed upon producers by the Payment of

Gratuities Act, 1972 and the Payment of Bonus (Amendment) Ordinance, 1972 the cost of labour remuneration generally increased during 1972 in accordance with the comprehensive wage structure negotiated by the industry in October 1970.

The Government of India's 1972 Budget contained no concessions to the Tea Industry and hence most of our gardens had to continue paying Excise Duty at the very high zonal rate of Rs.1.15 (6.15p.) per kg. of made tea. Even in the case of exported teas, where a total refund of Excise Duty might reasonably be expected as in the case of most other Indian industries, the ad valorem rebate which the tea companies can claim after the teas have been sold amounts to only some 2.7p. per kg. in respect of a tea which has sold in London at 45p. per kg.

DEVELOPMENT AND REORGANISATION

The major proportion of our 1972 capital expenditure programme was necessarily devoted to the factories and to the provision of equipment needed for the production of good quality teas from increasing crops. Additionally, full advantage was again taken of the Assam Government's Subsidised Housing Scheme for Plantation Workers. During 1972 a further 172 labour houses were built under this Scheme.

We continue to press ahead with uprooting and replanting programmes and new planting on replacement and extension areas. The successful adoption of modern techniques has considerably advanced the time when a return can be expected from new planting and we are pleased to report that excellent results are being achieved from the planting of recent years.

THE OUTLOOK

Owing to a period of drought conditions the crop from the Group's estates at 31st July, 1973 was slightly lower than at the same time last year but it is hoped that the final output for 1973 will still be in the region of 12 million kgs.

On the basis of the latest available figures it seems likely that the 1973 world crop of tea will be in excess of last year's in which case it is probable that overall shipments to the London market will be greater than last year. If so, and in the absence of any increase in the retail price of tea in the United Kingdom despite the general inflationary trend, it cannot be assumed that the prices paid to producers during the latter half of the coming London sales season will remain as steady as was the case last season. In India the 1973 season's Auction sales opened at a disappointing level, but there has recently been some improvement in the Calcutta market.

Unfortunately it is certain that costs of production and of transport to the points of sale will continue to rise. In the absence of an international agreement to regulate exports at a level capable of maintaining a satisfactory balance between supply and demand, which is in any event a negative approach, the most urgent need continues to be stimulation of demand by means of a sustained generic promotion campaign on an adequate scale, not only in the United Kingdom where consumption has been falling progressively since 1960, but throughout the world.

EDWORKS (1936) LIMITED

(Incorporated in the Republic of South Africa)

Directors: B. Dodo, M. N. Dodo, H. A. Kendall, B. Manohar, B. Manohar, L. Krassim, C. J. Wilmot, V. G. Mansell, Alternate Director: W. Michel.

THE DIRECTORS ANNOUNCE THAT THE RESULT OF THE DUPE ACTIVITIES FOR THE YEAR ENDED 30TH JUNE, 1973 IS AS FOLLOWS:

	1973	1972
Consolidated Net Trading Profit before Taxation	R900	R900
Less: Taxation	3,073	2,460
Less: Taxation	1,287	1,031
Less: Taxation	1,816	1,429
Less: Profit attributable to Minority Shareholders of Subsidiary Companies	100	76
Less: Extraordinary Items	1,716	1,353
Less: Extraordinary Items	160	56
Consolidated Net Profit for Year attributable to Holding Company	1,876	1,409

THE ABOVE FIGURES ARE SUBJECT TO AUDIT.

By Order of the Board

D. H. EDGE

Secretary

NOTICE TO SHAREHOLDERS

Notice is hereby given that dividends have been declared for the Ordinary "A" Ordinary, 6 per cent and 7 per cent cumulative Preference shares of this Company, as follows:

- (a) On the Ordinary and "A" Ordinary shares—a Final dividend in respect of the year ended 30th June, 1973 of 64 per cent (equivalent to 27 cents per 50 cent share) making a total of 76 per cent (equivalent to 38 cents per 50 cent share) for the year.
- (b) On the 6 per cent Cumulative Preference shares—a Half-yearly dividend in respect of the half-year ended 31st July, 1973 of 3 per cent (equivalent to 6 cents per R2 share) making a total of 6 per cent for the year ended 31st July, 1973.
- (c) On the 7 per cent Cumulative Preference shares—a Half-yearly dividend in respect of the half-year ended 31st July, 1973 of 3½ per cent (equivalent to 7 cents per R2 share) making a total of 7 per cent for the year ended 31st July, 1973.

The above dividends are payable to Shareholders registered in the books of the Company at the close of business on 28th September, 1973 and cheques in payment thereof will be posted or about 1st November, 1973.

The dividends are payable in the currency of the Republic of South Africa and dividends from the London Office will be paid in British currency, calculated at the rate of exchange in force on 12th October, 1973.

Dividend cheques despatched from the London Office to persons resident in Great Britain or Northern Ireland will be subject to a deduction of the United Kingdom Income Tax rates to be arrived at after allowing for relief (if any) in respect of South African Taxes.

The Company will deduct the Non-Resident Shareholders' tax of 15 per cent (12½%) from Dividends payable to Shareholders whose address in the Share Registers is outside the Republic of South Africa.

The Share Transfer Books and Share Registers of the Company will be closed from the 28th September, 1973 to 19th October, 1973, both dates inclusive.

By Order of the Board
D. H. EDGE
SecretaryS. E. ELIZABETH
London Transfer Office:
St. Bride Street,
LONDON, EC4A 3DA,
ENGLAND.
TE: 14th September, 1973.**Record set by Atlantic cargo ship**

By James McDonald, Shipping Correspondent

SEA-LAND SERVICE, of the U.S.—the world's leading container operator—has broken the transatlantic speed record for cargo ships with one of its ultra-fast SL-7 container ships, the Sea-Land Exchange.

On a voyage between Bishop Rock, near Land's End, and Ambrose Light, New York, the ship registered a time of 3 days 14 hours 54 minutes, an average of 33.54 knots, considerably exceeding the QEC's service speed.

On her eastbound sailing the ship took only 3 days 18 hours and 2 minutes, an average speed of 33.21 knots. Both records were previously held by her sister ship, Sea-Land McLean.

The group has five of these 946-foot long SL-7 container ships, each costing about \$45m.—two in the North Atlantic, and three in the Far East. Three more will be built by the end of this year, all capable of 33 knots. Sea-Land has 73 container ships serving 109 ports in 44 countries. The company is part of R. J. Reynolds Industries.

Supertanker in growing U.S. fleet

By James McDonald, Shipping Correspondent

OVERSEAS Shipholding Group Inc. of the U.S.—a fast growing bulk shipping company generally known as OSG—has taken delivery of a new 265,000 deadweight ton supertanker. This ship, which is 30 per cent owned by OSG, has entered service under a long-term charter.

Named Eastern Lion, the vessel is the second of eight very large crude carriers (VLCCs) scheduled to join OSG's international fleet, all of which have been chartered for long periods. The latest delivery raises the company's operating fleet to 30 ships, aggregating nearly 2.1m. deadweight tons.

By early 1978, when the last of the 21 ships now on order is delivered, the OSG fleet will total over 5m. deadweight tons, including ten 50 per cent owned vessels and six 60 per cent owned ships. Over 70 per cent of the 3m. tons of shipping on order has already been chartered for terms of five years or longer from time of delivery.

Heath calls for more flexible home loans scheme

FINANCIAL TIMES REPORTER

THE PRIME MINISTER said at the week-end that the Government was not satisfied with the present system of house purchase finance and believed that it needed to be "a good deal more flexible and imaginative."

Mr. Heath made his reference to Friday's recommendation by the Council of the Building Societies' Association to raise the mortgage rate for home buyers to 11 per cent, at a Conservative Party rally at Stratfield Saye, near Basingstoke, Hants.

He made it clear that discussions with the building societies were "well advanced."

"We want to make it easier for first-time buyers to buy their own homes," he said. "Building societies know the importance we attach to these discussions. We shall carry them forward with urgency and determination."

Mr. Heath pointed out that the building societies had produced "convincing evidence" that the banks were seeking deposits from small savers at rates considerably above the building societies' deposit rate.

He stressed that he had hoped

the building societies would have taken a "wait and see" line before making their decision in view of Mr. Anthony Barber's initiative in securing the co-operation of the banks in limiting the rate which they could offer for deposits from small savers.

Under the Conservatives more people than ever before were achieving home ownership, said Mr. Heath.

The Prime Minister claimed that the Labour Party had different ideas and were "much more interested in extending State ownership."

Different ideas

"Now they're discussing a plan to take away everyone's land and everyone's home. And then as a great favour they might let you have your own home back on a long lease. I know what most people in this country would do with a plan like that."

Mr. Heath said that Mr. Harold Wilson, the Opposition leader, and his disciples still thought it inevitable that Britain should lurch from crisis to stagnation

and back to crisis again. "What he proposes contradicts entirely the views of the trade unions given to me in the talks which I have had with them over many months," he went on.

"They are not interested in his political manoeuvrings. They want to see expansion continue at a steady, sustainable rate. They know that this is in the best interests of their members and their families. So do the employers."

The Labour Party leader wanted a policy of "deflation" he added.

"We shall go on with our policy of steady, moderate expansion. We believe it is the best way of protecting the fast rise in the standard of living which we have seen in the last three years. We believe it will enable us to go ahead to an even better standard of living in the future."

The Prime Minister said he was going to Dublin to-day believing there was an opportunity of "arranging finally to put an end to violence."

Britain was not going to be deterred by violence or by bombings, he told the rally.

'Put more effort into exports'

BY OUR INDUSTRIAL CORRESPONDENT

U.K. INDUSTRY, labouring under price controls in this country, was urged this week-end by Lord Limerick, Under-Secretary for Trade, to put more effort into profitable exports.

"Several companies have recently reported that they are finding exports profitable as never before," he said.

"Whatever the degree of success you are currently achieving, now is the time to look very carefully at whether you are taking full advantage of unprecedented opportunities for building up exports over the long term."

"If exporting is a relatively minor part of your business it makes sense to examine urgently what degree of priority you

The change in the parity of sterling had given Britain an important, and in some cases enormous, advantage over major competitors.

Whereas a year ago the Germans and Japanese, for example, might have had an edge over U.K. prices, in many cases this was no longer true. "We can now compete against them more strongly not only internationally but in their home markets as well," Lord Limerick declared.

"Increased exports are a key element in the rapid economic expansion we are experiencing now. They are absolutely vital if we are to sustain the rapid economic growth that previously eluded us for so long."

In the last three months, he said, exports were on average 28 per cent higher than in the second half of last year. The rise had been particularly marked in certain markets, including a 55 per cent increase in sales to Japan, 49 per cent to Belgium and Luxembourg and 38 per cent to Canada.

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* Results for the year ended 31st March 1973: pre-tax profit of £806,793 (1972 £320,625). An increase of 84.5% in earnings per share from 5.56p to 10.28p (diluted) and 102.4% (undiluted) from 6.05p to 12.24p.

* Dividend: The Board have recommended a final dividend of 75%, making 100% for the year with 25% interim dividend already paid (1972 total 50%). Treasury consent has been obtained and payment will be on September 18.

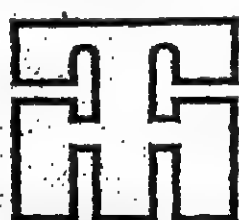
* Growth from existing divisions up 20%.

Acquisitions—Fortwell's forecast of £350,000 beaten by £52,000.
—Debonairs pre-acquisition loss of £99,182 (eleven months to 31st March 1972) turned to a profit of £45,872.

* Prospects: For the first three months of this year we are trading at a still higher level. We now have the framework of a broadly based textile group capable of expanding its own production and of trading in quality imported goods.

* Change of name to The Hollas Group Ltd.

Copies of the Report & Accounts can be obtained from The Secretaries, Hollas Textile Holdings Ltd., Century House, Ashley Road, Hale, Cheshire.

**HOLLAS TEXTILE HOLDINGS LIMITED****CHRISTIE-TYLER LIMITED**

United Kingdom's Largest Upholstery Firm

**AUDITED RESULTS FOR THE YEAR ENDED 30 APRIL 1973**

	1973	1972	Increase
£	£	£	%
Turnover	18,949,330	6,370,686	58
Profit before Taxation	1,539,391	571,924	168
Profit after Taxation	868,274	339,138	155
Profit attributable to Ordinary Shareholders	861,854	334,728	157
Ordinary Dividends Paid	27,635	25,606	—
Proposed	251,250	10,800	—
Earnings per share	13.7p	5.3p	157
Proposed Dividend per share	4.0p	—	—

At the time of the Offer for Sale profits before taxation of £950,000 were forecast and a net dividend of 2.40p per share was recommended.

The Current Year has started successfully with turnover and profits well ahead of those achieved in the corresponding period last year.

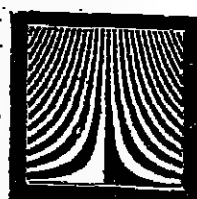
MDS would like to say all the top dozen UK companies have MDS computer peripheral systems

But they can't. The truth is that only eight of the top dozen UK companies have MDS systems.

But the others might well be forgiven for getting impatient.



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The Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

ELECTRONICS

Better communications

WITH FUNDING from the Science Research Council, industry, Government departments and the research associations, research activity in the electrical and electronics department at the University of Manchester Institute of Science and Technology (UMIST) is expanding rapidly—there are now some 200 post-graduate students.

One piece of work in the communications area—for the Royal Aircraft Establishment at Farnborough—is concerned with the interference that occurs to digital data when it is transmitted from an aircraft to ground by an HF radio voice channel occupying 3 kHz anywhere in the three to 30 MHz band. Early on, statistical evidence showed that the majority of the interference often occurs in perhaps two or three very narrow bands only about 100 Hz wide.

This is accounted for by the fact that most other users in the HF bands are using frequency shift keying, but there may also be overlap of audio channels that might produce interference at the extreme ends of the 3 kHz channel one is trying to receive. Evidently, if these narrow interference slots could be avoided in some way, the aircraft ground bit error rate could be reduced. The aim is of some importance since it is understood that there are areas of the North Atlantic where this kind of interference is serious, although discipline were perfect in terms of allocated frequencies, powers and bandwidths, the problem would not arise.

In one of the approaches at UMIST, the ground receiver

continually monitors the 3 kHz band being received and in effect chops it into bands 110 Hz wide using very steep-sided filters. The offending bands are then removed, so that although very little of the overall modulation is lost, the interference is removed and the error rate goes down.

In the other approach, the ground receiver monitors the proposed 3 kHz band when the aircraft is not transmitting and then tells it which are the best FSK tones to use to avoid the current 110 Hz wide interference slots at the ground reception point. There is of course, little problem in communicating with the aircraft since powerful transmitters with large aerial arrays are used.

The UMIST department which is using the big CDC 7600 computer at the university for interference analysis, hopes to try the system on a live HF link to an aircraft during next year. As yet it is not clear how many 110 Hz bands could be excised before data is lost, and so far no work has been done on improving audio channels in this way.

Interest is also being taken by the department in the display end of communications systems. For example, the use of cathodoluminescent storage phosphors for display tubes is under examination. These have the property that they change colour under electron beam excitation (unlike colour TV phosphors which emit coloured light). The effect is more or less persistent and two substances are under examination. One is chlorosulphate in which light erases the stored image, and bromosulphate in

which only heat does so. The second is clearly more useful since ambient light will not make the image fade, and it has been found that the heat generated by an incident electron beam of sufficient intensity and time will cause erasure.

At the moment a 100 to 150 micron spot size is being used, a duration of one or two microseconds at 200 microamps producing the coloration (a deep mauve) and 10 to 20 microseconds removing it.

In the UMIST experiments the whole screen is darkened using the low intensity beam and an image written by erasure, giving white on black characters. The image stores indefinitely and can be used in bright sunlight.

Due to the small spot size there are some problems at the moment about registration and re-addressing a point on the screen. A choice of time/ intensity also has to be made to keep the process reasonably fast. Actual erasure of a character, of course, is by re-addressing it at the lower beam intensity to restore the colour. A servo system to overcome the problem is under development and this, together with the fact that in an alphanumeric display system the necessary co-ordinates will always be in store somewhere, could give a successful outcome.

Still on the subject of displays, the department is also looking at computer-controlled flying spot scanning systems in an attempt to consume fewer bits in the storage of an image. Even with the increasing cheapness of storage it is clearly pointless to store those parts of a picture that convey no information.

The work has involved gathering the statistical properties of various computer graphics images and using these to develop an adaptive encoder which will allow the pictures to be economically stored (and manipulated if necessary) in the computer and a cassette store associated with it.

On the 512 x 512 scanning matrix used there are about 280,000 potential picture elements (black or white) and with the UMIST system the amount of information actually stored could go down in the ratio 20:1 for a thing like a simple graph and 2:1 for alphanumeric.

Hardware has been built for recording and playing back pictures, in conjunction with a Micro 16 computer. Sizeable reductions in the number of bits that need to be stored have been made even for quite complicated pictures such as photographs of commonplace objects, and on playback it is very difficult to tell the difference from the original.

GEOFFREY CHARLISH

SAFETY

Warns when flames die

SUITABLE for all gas fired or gas-ignited ovens, furnaces and boilers, a positive ultraviolet flame monitor is being built by Photoelectronics (Arcell), Hackbridge, Surrey.

Designed to suit all automatic or semi-automatic gas-fired or gas-ignited ovens, furnaces and boilers, the unit can also be used in other situations where flame detection is of prime importance.

The heart of the detection system is an ionisation UV photocell which can detect all types of flame, and is unaffected by variation in the constituents of the gas in such a flame.

Control is via a solid-state silicon transistorised circuit which ensures high-speed flame cut-off. The circuit is also fail-safe, and there is no possibility of a "flame-on" signal being given by a hot refractory when the flame is out.

Efficient flame detection is essential to safety where large volumes of gas are consumed, and the unit was developed as a result of the increase in recent years in the use of gas as an industrial fuel. It has undergone extensive field testing over a long period and has been subjected to rough usage to prove reliability.

Structural panel will resist fire

THE new non-combustible marine bulkhead lining and cabin divider system which has been promoted by the Sankey Sheldon-Unistrut division of GKN Sankey over the past 18 months already is making a dent in the market held by such traditional materials as Marine and other asbestos products in the marine field, according to James McDonald, our Shipping Correspondent.

With little publicity the product has been accepted by a number of U.K. shipyards, including Harland and Wolff, Cammell Laird, Robb Caledon, Appleton and Swan Hunter, and by shipbuilders in North West Europe and in Greece. A further substantial order is believed to be imminent from Greece.

The Sankey Sheldon marine bulkhead system is based on panels composed of an insulating core sandwiched between steel skins. The cores are in two materials and flame configurations to meet different fire-retardant requirements.

This "scrubber," part of an installation for cleaning and cooling boiler flue gases to minimise risk of explosion on a 250,000-ton tanker being built for Shell by Harland and Wolff at Belfast, has been lined with a special hard rubber by BTR Vitaline at its factory in Bredbury, near Stockport. It is the first of this type of plant to be lined and assembled by the company for Auckland Engineers, the specialist fabricator of Llanelli. The scrubber was designed by Peabody of 35 Clapham Park Road, London, S.W.4 and is the vital component of its marine inert gas system for purging tanks.

The company stresses that, although the basic product is more expensive than, say, asbestos, it is competitive with such traditional materials on an installed cost basis because of its ease in working aboard ship.

The panels can be cut and shaped with a simple bandsaw either on board or in the shipyard and there are no restrictions in cutting the materials due to dust formation.

One of the attractions of the product is that it provides a structurally sound panel which can be erected easily without additional structural members to reinforce the panel joints. This is achieved by specially stepped edges which interlock on being built.

Each Multicam system has a small, lightweight central display unit which indicates gas levels at up to 10 points within a 200 metre radius. Sensors connected to the central unit automatically monitor gas levels.

On the display unit itself, a needle indicates the risk of explosion at each point monitored and, at a pre-set gas concentration, a visual and audible alarm operates.

Post Office and telecommunications cable tunnels in a number of countries are also being protected by gas detectors. The object is to avoid explosions due to town gas from nearby mains leaking into the tunnels.

A portable multi-purpose detector known as "Sentinel" has been developed especially for the requirements of PTT—the French telecommunications service. It is expected that by the end of 1973 the PTT will have over 700 of these in service.

Another model—"Survivor"—has recently been ordered by the PTT to detect possible gas leaks into the tunnel through which the main cables enter the central telephone exchange at Lisieux.

Orders for these have been received from the telecommunications services of Belgium and Algeria.

Further information from Haddon-Oldham, Market Harborough, Leicestershire.

Sniffs out gas leaks

GROWING use of natural gas in town supplies can cause an increased risk of Roman Point-type explosions both in public buildings and in residential dwellings. In France, where several disastrous explosions have occurred, this hazard is being overcome by fitting such buildings with electronic gas

COMPUTERS

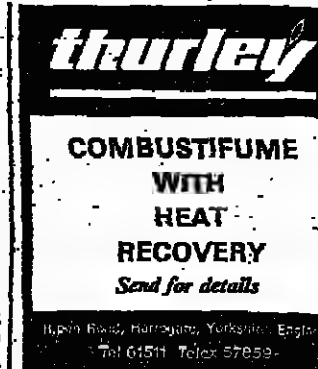
U.K. linked to giant network

NEWS THAT Britain and Norway had been linked up to the vast trans-U.S.-ARPA computer network, and that users in the U.K. now can gain access to the largest existing computers on computers and at research centres across America, was released at the NATO Advanced Study Institute meeting at Sussex University last week.

The small processor which allows connection to ARPA and some 30 American research centres is at the Institute of Computer Science in London. The project is led by Professor Peter Kirstein of the University of London.

That there is a need for such an experimental facility has been demonstrated by the amount of interest shown by computer and other research workers in this country. Indeed it seems as if London is going to operate a multi-network of its own. The SRC's 380/195 is linked into the network and has already been used on an interactive basis from the United States: 1,200 baud leased lines are due to connect in the Cambridge Computing Laboratory, AWRE, and the ARPA facility in Stuttgart.

Early next year the CAD Centre in Cambridge and the NPL at Teddington will also be connected. By the end of the month there will be seven or eight switched lines operational and the indications are that a considerable number of other uni-



versity and Government research laboratory organisations in U.K. intend to access the facility. In the meantime the project continues to be funded on a minimal basis and is still looking for support funds which are expected to come from Computer Board.

The SRC has refused support saying that it is not in their business. This is in line with the official negative attitude in Britain to computer communications network and although 22 countries are represented at the NATO v. the Department of Trade and Industry and the Ministry of Defence were conspicuous by their absence.

Some complicated calculations now made public by AI representatives indicate that savings attributable to the use of the ARPA net are already considerable. The resource that goes on means that all every institution connected will have had to spend between four and five times as much on vision of local computing as it would if the network did not exist.

ARPA executives indicate the network costs \$3.5m. a month to run but saves \$4m. a month there will be seven or eight switched lines operational and the indications are that a considerable number of other uni-

INVENTIONS

Award will encourage innovators

TECHNICAL Development Capital (TDC) is sponsoring a competition to encourage potential profit-makers who plan to start a company or expand an existing one based on a worthwhile technological innovation.

The prize of £5,000 will go to the individual, or the team, submitting the best business plan. The judges will, in addition to assessing the innovation itself and its marketing and production plans, place particular emphasis on the personal qualities of the managers of the project.

They will be looking for a combination of market knowledge, commercial acumen, technical capability and managerial promise.

HANDLING

Telescopic boom cranes

THE BRITISH Hoist and Crane Company has introduced two additions to its Iron Fairy range of telescopic boom cranes. The new machines are the Onyx, a rough terrain crane of nine-ton capacity, and the Sapphire Seven, a seven-ton capacity telescopic jib crane that can lift and carry a full seven-ton load.

In overall design, the Onyx is a smaller version of the Iron Fairy Cairngorm. It has a high power-to-weight ratio, evenly distributed overall weight, and a twin-disc two-range torque converter. With its large diameter tyres, high ground clearance and sharp approach and departure angles on the chassis, says the company, the Onyx can travel over soft or deeply rutted ground, and can wade through water or liquid mud up to two feet deep. It can get from site to site under its own power and the driver can

combine two-wheel drive when driving up hills, wheel steer or four-wheel drive when negotiating corners. The Onyx can be configured with either a 82 feet 10 inch boom configuration—4.5 ton capacity fully-powered, section boom plus 15 feet section boom—fully powered section boom extending 34 feet 10 inches.

The Iron Fairy Sapphire Seven is a seven-ton capacity crane designed primarily for use in industry and plant hire. It will travel with a full seven-ton load, and can carry loads of up to 54 tons through doorways less than 8 feet 9 inches high. There are no outriggers and all lift is carried free-on-wheels. The Sapphire Seven is complete with a three-section telescopic boom which extends to 35 feet 8 inches. At the minimum radius of 31 feet 6 inches it will lift 1.25 tons. At 12 feet 6 inches it is available as an option, and extends the boom configuration to 47 feet 6 inches. The British Hoist and Crane Company of Compton, Berks, is a member of the 600 Group.

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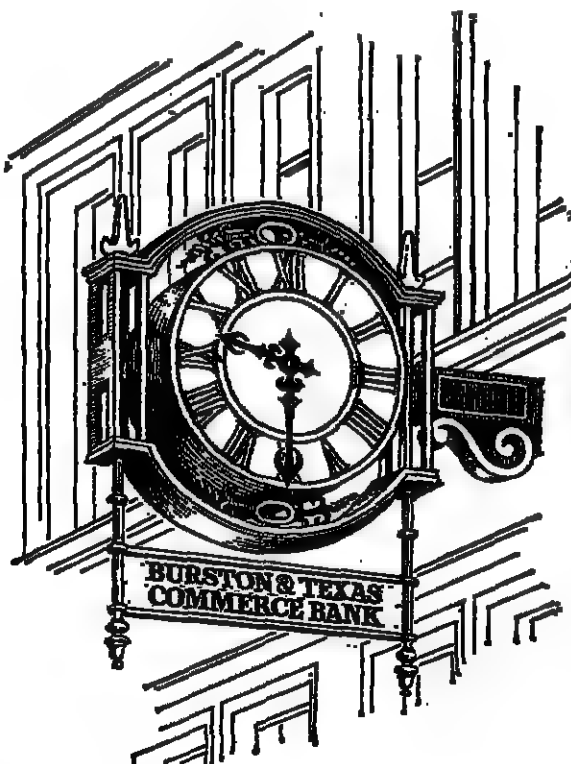
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Building and Civil Engineering

INSTRUCTION OVERSEAS

Tarmac buys into Europe

THE NEARLY 20 per cent of total turnover of 200m. created outside the U.K. is a perennially being-versed opportunity to expand overseas interests.

However, although the company fully intends to increase foreign involvement—particularly in Europe—it is limited to do so only at a pace at which there is management in depth to cope. In this, Tarmac believes, the long-term future of such business will be assured.

The overseas activities of Tarmac are concentrated in laying, mastic asphalt, and civil engineering. Although these activities have not entirely represented growth within the company in the developed countries, Tarmac also expanded in the developed countries, primarily through acquisition.

Tarmac is devotedly European in an aim and strategy to further its main U.K. operations in a Continental context, and it is, in fact, through the indirect purchase of a European company that the group first became involved in roadstone outside Britain.

This was in 1968 when Tarmac merged with Derbyshire Stone, which, through the Neuchâtel Asphalt Company, had for many years been active in Europe, Australia and New Zealand. The latter two interests were posed of as they lacked enough potential to merit maintenance at such a distance, and at the same time, Tarmac ended its construction activities overseas.

In Europe the company is

operating all its principal activities with roadstone the main interest and chiefly directed at Germany.

Earlier this year Tarmac was successful in acquiring for £3.5m. the asphalt manufacturing assets of two German businesses in the Rhineland which wanted to diversify themselves of these particular operations.

The end result of this move, the opportunity for which arose partly as a consequence of British entry to the EEC, is that Tarmac is now the third largest asphalt manufacturer in West Germany. The deal itself involved the acquisition of 29 modern asphalt plants with an annual output of over 2m. tons of blacktop materials.

This year's German investment followed from a historical involvement in the country through Astec, road surfacing and general road contractors in Bavaria for 100 years, which Tarmac took over and is expanding geographically by adding more asphalt plants.

Behind all these purchases in Germany there lies a clear strategy. In the U.K. over a period of many years, Tarmac has acquired strategic resources of aggregate and markets them through a series of end-users, the most important of which is asphalt. Blacktop and surfacing.

Having gained a relatively strong position in the manufacture of asphalt in the German market, the intention is to expand both into other areas and to build a fully integrated roadstone surfacing business throughout the U.K.

Tarmac points out that, in

many areas, the asphalt manufacturing industry in Germany is highly fragmented and feels there is opportunity to concentrate production in bigger units with consequent lower costs.

The mastic and waterproofing interests are primarily directed at France, arising from the acquisition of SPAPA (through Derbyshire Stone) which has a long term contract with the City of Paris. Tarmac hopes to expand the scope of this company and is actively looking at opportunities for quarrying and roadstone in France. The company's other European centre is Switzerland, where it owns an asphalt mine, three asphalt plants in different areas, and is shortly going to build a fourth.

On the construction side, the company is not yet permanently established in Europe although it is carrying out nearly £2m. of work a year in Holland and Belgium. However, this is the ultimate aim and it will probably be through the acquisition of a majority holding in a construction company with, possibly, options to take over 100 per cent.

Tarmac believes that local involvement and knowledge is vitally necessary to complement the management skills and expertise which it feels it can provide in the European scene. The company agrees with Bovis Construction that enormous opportunities exist in Europe for project management and has operated in the Low Countries for the past four years on this basis.

With the company's multifarious set-up on the Continent, it might reasonably be asked: why not a Tarmac Europe? This could happen, but—apart from fiscal reasons—the company argues that the best approach at present is to harness the like activity in one country to the management that has the expertise for that activity in another country.

The construction interests have been concentrating in the Middle East, but work has also been carried out in Africa, Russia, South America and the Far East. The Middle East organisation, with a regional office in Dubai, has been built up over the past five years and now has an annual turnover of between £5m. and £10m.

The general building and civil engineering activities are supported by specialist expertise—in process engineering, and tunnelling following the acquisition of the Mitchell interests—which Tarmac operates on a worldwide basis. The Roadstone division has a team dealing with one-off surfacing contracts worldwide—it recently surfaced the Bosphorus bridge—and the Far East offers attractive prospects here.

Roadstone and surfacing activities are well established in South Africa, where they now hold the major share of the asphalt market and are expanding their interests in sand and stone production.

Tarmac has, in addition, entered the property development overseas stakes, and is currently in the throes of its first such project, an office block in Brussels.

JOHN DARLINGTON



Precast drainage channels, cladding and fascia panels said to cost no more than similar products in conventional concrete are being produced in polyester resin concrete by Whaley Agresin, Oakesway, Hartlepool, Co. Durham. The resin concrete called Agresin, is made entirely without cement and consists of aggregate mixed with "Beetle" polyester resin supplied by BIP Chemicals (Turner and Newall). The high strength/weight ratio obtained results in products which can be one-third as light, or four times stronger, and more resistant to chemical attack and weathering than conventional concrete parts, says the company. Drainage channels made from "Agresin" can handle most liquid effluents as well as surface rain and waste water. Whaley Agresin has opened a plant for the continuous production of building components from this material which the company thinks will, eventually, replace conventional concrete in many applications.

Runway at Turnhouse

A NEW runway at Edinburgh's Turnhouse Airport is to be constructed at a cost of £3.25m. by W. and C. French for the British Airports Authority.

The runway will be situated immediately to the north of the airport and comprises two 360-metre by 45-metre-wide pavement quality concrete sections with tarmac area and taxiways. The works, which include drainage and services and the erection of four single-storey electrical substations, will take 27 months to complete.

Meanwhile, Astec Bau, a German subsidiary of Tarmac Roadstone Holdings, has been awarded a £500,000 contract for surfacing work at Berlin's Tegel Airport.

Appointment in Italy

S.A.I.P.E. (Società Anonima Italiana per l'Ecolologia), a company formed earlier this year in Italy, between London-based consulting engineers Sandford Pavey, Wilton and Bell, and professional Italian engineers, has been awarded its first appointment in the Public Health Engineering field.

The appointment, with the town of Viadana in the Mantova region near the River Po, is in two parts. The first is for a comprehensive survey and report on the sewage treatment needs of the town—which has a population of about 20,000, with many trade waste-producing industries—including the trade wastes.

The second part of the appointment is to cover in detail the problems raised in the report such as the evaluation of schemes put forward by the industries for dealing with their specific pollution problems, as well as proposing engineering works for the Municipality to control pollution.

In brief

A. MONK and Co. has won a £1.8m. contract for the construction of roads and allied structures for the Stamford Street/Old Street diversion (A635), Ashton-under-Lyne, Lancs.

HOLST AND Co. (Northern) has received a £1.4m. order for the design and construction of civil engineering works associated with the new coke oven complex being built for the British Steel Corporation at Redcar.

LOVELL HOUSING of Marlow, Bucks, a member of the Lovell Construction group, has been awarded a further contract valued at £104,000 by Huddersdon Urban District Council for the construction of timber frame flats and houses.

MEARS CONSTRUCTION is to build a £267,000 adult training centre, hostel and outbuildings at Rainhill, Lancs., for Lancashire County Council.

A £180,000 contract has gone to Norwest Construction (Civil Engineering) for the design and construction of an office block in Bootle, Lancs., for S&B (Merseyside).

Laing wins Oil tanker terminal in Scotland by Kier

THE MAJOR part of the building programme—a £2.5m. contract—for a new civic centre complex in Aberdeen has gone to John Laing Construction, which has already started work.

The scheme, on a 14-acre site at Westburn Road, has been planned to supersede the council's existing offices in 11 buildings scattered throughout the city and is scheduled for completion in June 1975.

Laing has the task of completing a four-storey block with a combined floor area of about 150,000 square feet to house the entire office staff of the county council. The project also includes the erection of a single-storey bank and a two-storey office block.

Elsewhere in Scotland, Laing has won a £1.9m. contract from East Lothian County Council for upgrading 452 pre-war houses, while a £575,000 job for British Home Stores involves the building of new four-storey retail premises in Phase Three of the town centre scheme at East Kilbride, Lanarkshire.

A CONTRACT valued at nearly £7m. for the design and construction of a tanker terminal at Holehaven Creek, Canvey Island, to serve the new refinery being built there for Occidental Refineries, has been awarded to Kier.

The six-berth terminal will have an approach reaching out 1,400 metres from the shore. The berths are designed for a range of vessels from 1,500 dwt to 263,000 dwt and 15 mooring dolphins are included in the contract. Loading and offloading crude oil and products will be by 25 loading arms to be supplied under a nominated sub-contract.

Kier will also carry out the mechanical and electrical work for the project which should be completed in two years' time. It has been designed by Parsons Brown and Harris.

Acquisition by Mowlem

MOWLEM HAS acquired E. Reader and Sons of Alfreton, Derby, formerly a subsidiary of Sturtevant Engineering Company, for £100,000.

E. Reader specialises in pressure grouting, ground anchors, drilling and the hire and sale of its own range of grout pumps and mixers. The company will become a wholly-owned subsidiary of Soil Mechanics, a member of the Mowlem group.

The deal was arranged through Chesham Amalgamations and Investments.

Whitbread delivery centre

HOLLAND, HANNEN and Cubitts (North West) is to build a £1.4m. delivery centre for Whitbread, the brewers, on a 15-acre site at Shadsworth, near Blackburn.

The centre will have vehicle loading bays at one end, a warehouse and storage area in the centre and, at the other end, a complex consisting of a tanker unloading bay, a bright beer processing department, a packing area and a small laboratory.

Construction, which began last month, is expected to take 18 months and consulting engineers for the project are Brian Moorehead and Partners of Altrincham.

Conder wins tax office contract

UNDER A £1m. contract from the Department of the Environment, Conder (Scotland) is to erect the steel shell of a new inland revenue tax office at Cumbernauld in Scotland.

The £5.5m. development, for which a main contractor has not yet been appointed, is being built in three phases using the Conder "Kingsworthy" method of construction. It will house general offices, a computer suite, welfare facilities and service and storage areas.

Help for laymen

A NEW booklet from the Brick Development Association—"An Outline of Housing and Planning"—has been prepared mainly for laymen serving on local authority planning committees.

The booklet provides a concise description of the administrative and legislative aspects of housing and planning at national and local level together with glossaries of terms commonly used in design and construction. Copies will be circulated throughout the country when the councils are reconstituted at the beginning of next year.

The BDA has also published an updated version of "The Design of Calculated Load-bearing Brickwork" with all calculations now given in metric.

The first publication is available free of charge, the second at 25p, from the Brick Development Association, 19, Grafton Street, London W1X 3LE.

Inspecting platforms

UNIT INSPECTION Company of Swansea, part of the British Steel Corporation's Tubes Division, has won a contract from Conoco, operator for the Conoco/National Coal Board Group, for the underwater inspection of five fixed platforms in the Viking Field, 86 miles off the Lincolnshire coast.

Using non-destructive techniques, the work will take between one and two months and will be the first phase of a routine programme to ensure the future integrity of the oil platforms.

Underwater television experts will make a video film of the submerged sections of the platforms together with detailed sequences of non-destructive testing operations.

Unit Inspection is working on the contract in co-operation with North Sea Diving Services and Underwater Security. Elsewhere the company is currently carrying out site testing of the construction of three platforms—two for the British Petroleum Forties Field, and one for Shell's AUK Field.

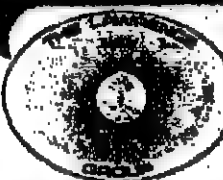
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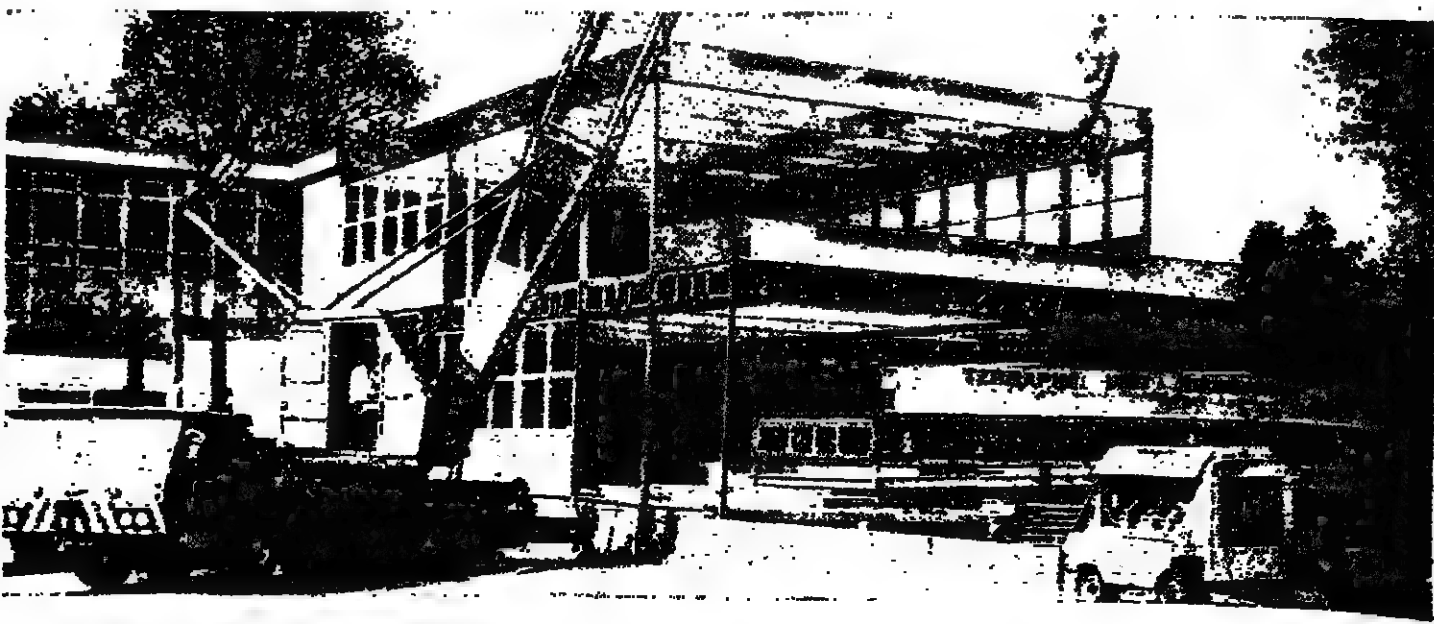
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Profits and investment

WITH the Government due to hold further discussions with the CBI to-morrow, more attention is being devoted to a crucial area of the Phase Three debate—the role of profits. The large and sometimes spectacular increases in profits which have been reported by industrial companies over the last few months may have given the impression that manufacturers have been enriching themselves at the expense of consumers and employees, and that controls on prices and profit margins should be made much tighter in Phase Three. This is, of course, a distortion of the facts. Quite apart from the point that opportunities for personal enrichment have been limited by control of dividends and of salaries, much of the improvement in profits has been due to recovery from recession and the consequence of fuller capacity utilisation.

Downward trend

In real terms, as the CBI is right to emphasise, profits are still too low. There has been a long-term tendency for profits to decline as a proportion of national income and this was particularly marked during 1971 and 1972. During these years pre-tax trading profits came out at 6.6 and 6.7 per cent of national income, compared with figures in the 12-13 per cent range ten years earlier. The drop in profitability, moreover, is more than just a cyclical phenomenon. Figures produced by the Monopolies Commission have shown that there has been a constant downward trend in the profitability of manufacturing industry since the beginning of the 1950s.

Everyone accepts that a higher level of capital investment is an essential ingredient in economic growth, and that the confidence apparent in recent surveys of capital spending intentions must be maintained during 1974. This will not happen if profits are held back too severely. While the anticipated level of demand may be the most important single determinant of a company's investment decisions, no company will expand unless it sees an adequate return on its investment. Anxieties expressed in recent weeks by the chemical

Limited scope

With most manufacturing industries having already reached full capacity operation, or fast approaching it, the scope for these spectacular gains in production volume is greatly reduced. Those cyclical industries which suffered severely during the recession, such as chemicals and much of engineering, need the boost to profits which the economic expansion should normally provide.

These are factors which the Government must take account of in the formulation of Phase Three. While some overall control of prices is necessary as part of the package, it must be designed to accommodate profit margins which will stimulate and maintain industrial investment.

The obstacles to liberalisation

COMING hard on the heels of the launching of a new round of trade negotiations in Tokyo, the revaluation of the Dutch guilder highlights the intimate relationship between trade and monetary affairs, though not perhaps in the sense intended by the French when they were doing battle with the Americans on the eve of the Tokyo meeting.

M. Giscard d'Estaing was trying to ensure that there would be no commitment to trade liberalisation until the U.S. agreed to a reform of the international monetary system. But one of the major uncertainties in the monetary field concerns the role of the Community in a reformed world system, and the Dutch move is bound to cast additional doubts on the prospects for early progress on monetary integration in Europe.

Laborious

The only immediate consequence of the Tokyo conference is that the officials who prepared it so successfully can now reconstitute themselves as the Trade Negotiations Committee, which will hold its first meeting on October 24. But thereafter the going is likely to be slow and laborious, since their task will be to solve all the problems which were glossed over in the vague phraseology of the Ministerial declaration.

The first of these problems is to fix, in more precise terms than the Ministers were able to do, the aim of the negotiations in the field of industrial tariffs. Everyone agrees that for the sake of simplicity, there should be some general formula or formulae. But whereas the Americans are in favour of uniform percentage cuts across years

The vigorous regional affairs office in Paris seems determined not only to do without large-scale foreign investment, but to get back from the EEC Fund as much as France puts in — with no strings attached. Roy Hodson, Regions Editor, reports

France likes to solve its own regional problems

“UNLIKE certain neighbouring countries, we believe that the essence of economic development must come from our own national industry,” M. Jérôme Monod, the man responsible for France's regional development policies, said at a Financial Times conference in London during the summer. He was not just having a go in Gallic fashion at other Community members. It was a carefully weighed remark, and from it can be gleaned the total French position towards its own regions and the evolving European regional policy.

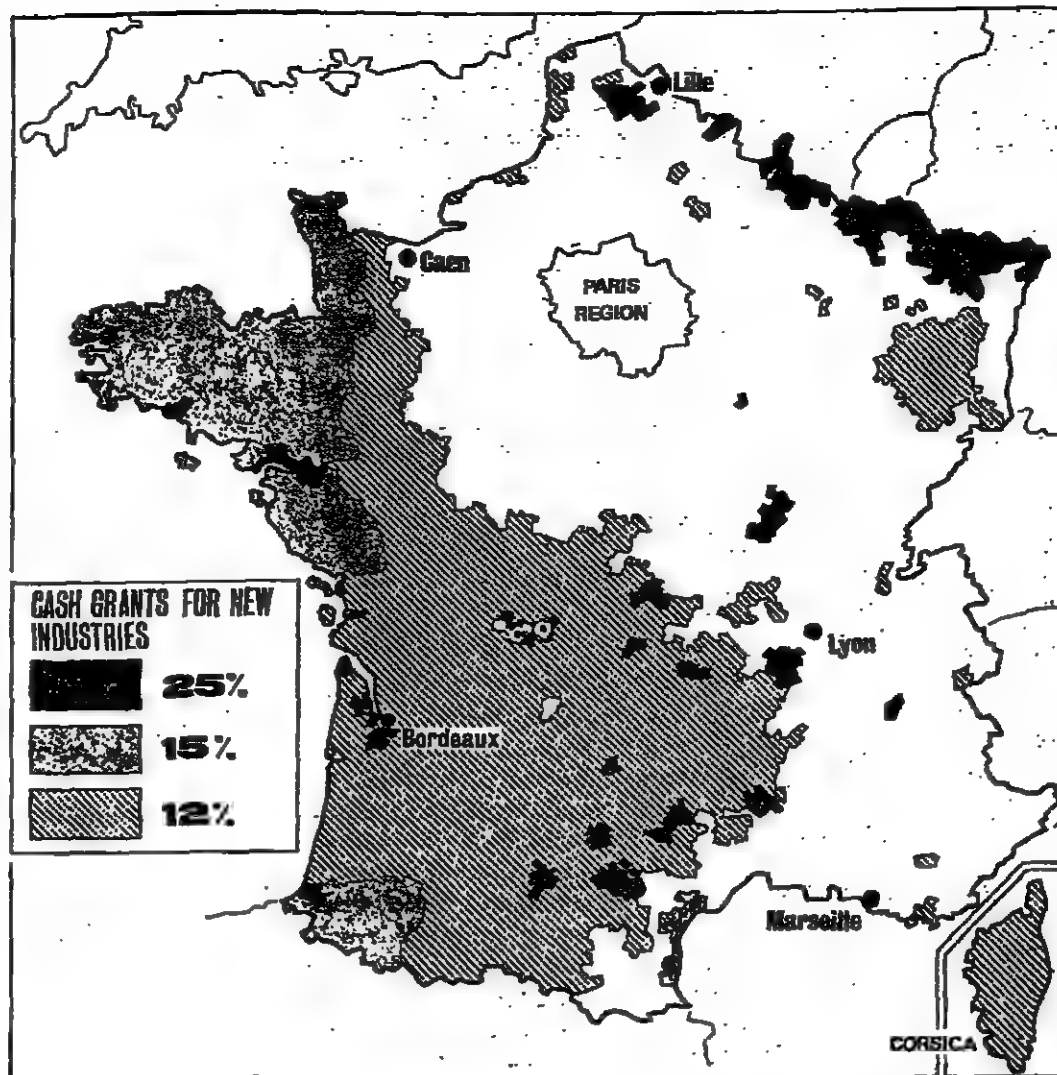
M. Monod is the head of the Délégation à l'Aménagement du Territoire et à l'Action Régionale. He leads a team of professionals who manage France's regional affairs from a charming old house in the shadow of the Eiffel Tower. Businessmen and local politicians wait in the corridors seeking support for pet schemes. Datar is proud of the fact that it has never grown beyond 100 people, including typists and drivers, during its first ten years: “We travel a lot and use the services of the Prefects in the regions.”

Priceless asset

The small organisation in the cramped headquarters has one priceless asset which ensures its effectiveness in promoting and, if necessary, imposing development schemes upon departments of France. It has power. Although nominally under the wing of the Minister for Equipment, Housing and Tourism, Datar is under the personal supervision of the Prime Minister of France. He and M. Monod meet at least once a month and jointly direct the work of the team.

France has enjoyed one of the highest economic growth rates in the Western world during the past two years. During the first half of this year industrial production has been rising at an annual rate of nearly 10 per cent. The OECD expects an annual growth in productivity of more than 5 per cent for several years to come. Meanwhile, the price of land remains comparatively low and more than 1m. useful workers are expected to be released from agriculture for industrial work during the next 12 years.

Economic expansion has been achieved so far without much foreign investment in comparison with the rest of Europe. According to U.S. Government figures, U.S. investment in France up to end-1970 was half that in Germany and one-



quarter that in Britain. The strategy of the French Government, to be implemented by Datar, is to continue to relegate foreign investment to, at best, a minor role in the future expansion of France and, meanwhile, to develop France's own industries to make best use of the impressive human and natural resources available. M. Monod gives priority to the following sectors: mechanical, construction, chemicals, electronics, telecommunications, agriculture, and the food industries.

Wholesale moves

The French have learned the trick of moving industry about the country wholesale in order to help the poorer regions and to take the heat out of booming areas. In fact, the only part of France which has suffered from serious “over-heating” is the Paris region. And the Datar team has a special weapon to deal with that problem. It has specific powers of full control of development in the Paris region in addition to its wider function of promoting nationwide development. Those powers are being applied with increasing tough-

ness. As a result, Paris's share of new industries has fallen dramatically during the last few years to a point at which industrial employment in the region has been stabilised. In the rest of France it is rising by an average of 10 per cent a year.

Heavily dependent

The two most significant industrial movements in France have been the almost total transplanting of the steel industry from the Lorraine and other inland sites to Dunkirk in the north and now to the Fos industrial centre being built on the Mediterranean coast. The Fos project, which is being co-ordinated by Datar, is under the direct management of the Port of Marseille Authority, represents in its entirety the biggest industrial development going on anywhere in the western world. Concomitant parts include deep-water tanker terminals, several refineries, petrochemicals manufacturing industries, a new dry dock for 800,000-tonners which is being scooped out between Fos and Marseille, and the centre-piece of the whole complex—the Solmer steelworks being built alongside the

France's biggest exercise in government intervention in industrial development — some would say France's biggest gamble—is, however, the Fos project. When the Dunkirk steelworks was firmly established and the question of removing virtually the other half of the inland steel industry to a coastal site was considered, the planners looked at Le Havre, Brest, Bordeaux and the Marseille area. The choice was narrowed to Le Havre and Fos, then an area of sand, scrub, and lagoons to the east of Marseille just on the edge of the wild Camargue country. The Government saw in Fos the elements of a grand design to industrialise southern France.

To-day Fos, which is being co-ordinated by Datar, is under the direct management of the Port of Marseille Authority, represents in its entirety the biggest industrial development going on anywhere in the western world. Concomitant parts include deep-water tanker terminals, several refineries, petrochemicals manufacturing industries, a new dry dock for 800,000-tonners which is being scooped out between Fos and Marseille, and the centre-piece of the whole complex—the Solmer steelworks being built alongside the

new sea terminals. The blast furnaces and basic oxygen converters are nearly finished. By the end of this year the steel works will be moving up to its first production level of 3.5m tons a year. By 1976 output will be increased to 7m tons a year which is considered the minimum for viability. At both the Fos site and Datar headquarters they are forecasting 14m tons a year in the middle 1980s. Clearly the scale of Fos and all its outworks goes far beyond the sort of planning needed simply to correct a regional imbalance. The French Government is providing some 100m francs a year for infrastructure works alone at Fos. The total project is costing the Government far more than that each year, of course, in various ways and the spending will go on for many years yet. Private investment capital, cash flow from trading, and bank loan support the remainder.

A number of southern workers are being trained as steelmen up in the Lorraine to man the Fos works, and enough workers from Lorraine are prepared to move south to see the plant run-in during the early years. The Fos project in its entirety represents a Government conviction that massive industrialisation of the Mediterranean coast can be achieved by coaxing workers traditionally engaged in commerce round Marseille, or in the vineyards and the farms of the Camargue, into an industrial way of life. To the planners, Fos itself will be only the beginning. The intention is to allow the spread of industrialisation to flow steadily northwards from Fos which is at the mouth of the Rhone to Avignon and beyond until, when the Rhone is canalised to the German border at Strasbourg by the early 1980s, there will be the makings of a new French industrial belt running the length of the river from south to north.

Excess of exports

Meanwhile, Marseille-Fos will have become the principal modern industrial centre supplying the needs of the nations bordering the Mediterranean basin. Even in these early years that is happening. Companies already manufacturing at Fos, including Imperial Chemical Industries, are finding in some cases that their export business far exceeds their trading with the French hinterland.

So convinced is the Government that the Fos-Rhone industrial belt will develop fast that Datar is already concerned with counteracting some of its effects. At Datar there are five commissioners concerned with the French regions: West

France, North France, East France, the Massif Central and the Mediterranean. The Mediterranean commissioner, working for an east-west spread of new activity either side of Marseille-Fos “to spread prosperity.” Ideally, he would like the total development to have a chain reaction as far as the Spanish border where France finds the relative prosperity of the north. Spanish industrial towns rather embarrassing contrast the poor districts of France.

The only problem areas France which will not, it seems, be directly or indirectly affected by the long-term development of Fos and the Rhone valley are West France and Brittany.

Peripheral areas

The scale of management French regional development does not appear to leave a great deal of elbow room for Brussels to practice a developing European regional policy in France. The French attitude comes quite clearly in respect of areas which Brussels may be willing to regard as “peripheral” and therefore need of Community help—prably Brittany, south-west France, parts of the Massif Central, and Corsica, and possibly some districts of north France. The French Government would welcome additional aid from the Community Fund to assist the development of those regions. But it is adamant that the Fund should be managed essentially by member states themselves rather than by Mr. Geor Thomson and his men in Brussels.

The Commission is proposing that next year, the first year of the Regional Fund, there should be a budget of 500m. units account (a Community unit account is worth roughly 4 at the present time); in 1974 there should be 750m. units account, in 1976 1,000.

About one-third would be towards the intractable problem of Italy's Mezzogiorno. Germany would contribute much to receive little. That would leave more than half the Fund to assist regional problems in Britain and Ireland, France, Benelux countries and Denmark. It is the Commission's collective wish that that should not simply be handed back what they pay in. In the Common Market jargon, the Commission rejects the principle *justice retour*. But it looks very much as though France will be seeking almost a full return for its contribution and, moreover, freedom of action to use it as she likes.

MEN AND MATTERS

Kearns moves up via Europe

With a daunting series of EEC and GATT negotiations coming up (the Common Agricultural Policy battle with France being the most dramatic of them) the appointment of Freddie Kearns as Second Permanent Secretary at the Ministry of Agriculture, Fisheries and Food looks like pinning a medal on the general before he goes off to war. Except that Kearns has already been an international negotiator, sometimes in a very war-like manner, for much of the last three years.

He was our food man on the EEC entry negotiating team, gaining a reputation for getting willier and tougher as the Brussels nights wore on. In the final stages of the New Zealand butter talks, determined to get an extra 6 per cent on the quota, Kearns is thought to have taken the ultimate negotiating stance of saying that if we did not insist on the extra amount he would quit, and he won his point. Not a man to hide his impatience when talks are bogged down, once when a Minister was making polite noises about a morning session of useful and progressive exchanges, Kearns stage-whispered that proceedings had actually been “totally confused and meaningless.”

The occasion for Kearns's promotion is the increased work involved in two of his responsibilities since he returned to the Ministry after the entry talks, external affairs and the counter-inflationary programme. Within the Ministry, the move will be popular, not just because, for the first time, it rates Agriculture, Fisheries and Food as worth two Permanent Secretaries, but also because

Kearns has been within the Ministry since 1947. When the top job became vacant, at the end of last year, it went to a Treasury knight, Sir Alan Neale. It is a sign, perhaps, of the agricultural times that both the Ministry's top men are now known as international negotiators. Neale has been in the thick of several monetary tussles in the past. With Kearns's words, “Brussels is virtually an extension of Whitehall and food and agriculture close to the heart of any international arrangements or trading agreements,” the two have plenty of negotiating ahead. But Kearns may hope for more sympathetic ears within the EEC, now, as he says, that “everyone of the Nine has an inflationary problem.”

Travelling man

Anthony Barber has left for Africa—first for the Commonwealth Finance Ministers meeting in Dar Es Salaam, and then a rallying of EEC Ministers before the IMF itself starts in Nairobi to-day week—as already our most travelled ever Chancellor. His foreign commitments, which left the preparation of this year's Budget as little more than a hurried interlude between international worries, are known to have occasionally irked him.

He has, nevertheless, become the second longest serving of the 13 Chancellors since the war. Barber started in July, 1970, on the death of Iain Macleod, and has just passed Roy Jenkins's 1967-70 stint of three years, one month. Should he stay with the job, his next milestone would be passing the four years, two months served by Lord Butler from 1951 to 1955.

job might not seem overlong. But among the Finance Ministers gathering for the IMF, Barber will have only one colleague, Cledor d'Estaing of France, who was also there to sign the Smithsonian parity agreement of December, 1971. The other eight signatories (from the Group of Ten) have already changed jobs might be seized on, by some mean-minded types, as an indication of Smithsonian permanence.

Demarcation

The advent of self-service petrol stations seems to have confused the status of those garages where there is still an attendant working the pumps. For example, a woman colleague drove into Kenning's garage near Holland Park, London, to fill up. On driving off, she quickly noticed a smell of petrol and discovered the fuel cap was missing. Two minutes later she was back at the garage. The pump attendant said: “My job is to put petrol in, not put filler caps back on.” A woman in the garage office said: “What do you expect? This is not a service station.” Absolutely.

No rush to market

Even in these dismal stock market days, companies still think of going public as a way to making acquisitions. Twinlock, supplier of filing and retrieval systems, visual aid products, microfilm equipment, etc. is one with such ideas, its chairman Robert Hutton saying that making a major acquisition would be the main reason for a flotation. He thought of it once before, but then profits dropped at the crucial moment in 1969. As it is, the 350 Twinlock shareholders can trade their shares through an over-the-counter market made by investment

bankers M. J. H. Nightingale. It is, in fact, quite an active market, and lack of a Stock Exchange quote has not stopped Twinlock expanding by acquisition. The buying of another public but unquoted company, British Pens, being the 11th during Hutton's chairmanship. He came to the job in 1964, aged 28, on the sudden death of his father, explaining the succession as “What we hope is the good face of nepotism.” Turnover then was £23m, which had grown by last year to £75m, with pre-tax profits of £677,200. So that as 38 Hutton can say the nepotism has worked quite well.

For the moment, Hutton says, Twinlock has plenty to do absorbing its two deals in the past month, bidding for winning British Pens, and joining Belgian units with G. C. T. Van Dorp, of Amsterdam, so that Twinlock now holds 45 per cent of the Dutch company. British Pens, a pioneer of the split-nib market in the past century (it still holds a virtual monopoly of dip pen sales here), adds 48 per cent to Twinlock's net tangible assets, plus profits running at nearly £200,000 last year.

So going public (the Hutton family holds more than a third of the shares, with a third also held by people working in the group) will still have to wait a while, particularly as Hutton thinks his over-the-counter market “substantially more logical than the Stock Exchange” in its present mood.

Très splendid

As the centre of Euro-speak, Brussels is now lined with estate agents' boards which describe empty office blocks as “Bureau de très grand standing.”

Observer

FINANCIAL TIMES SURVEY

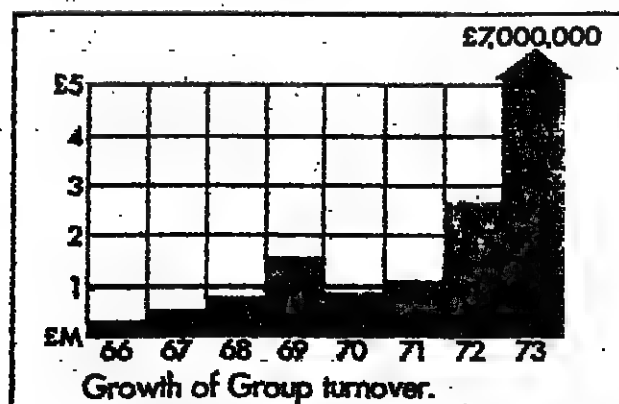
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FINANCIAL TIMES SURVEY

Machine Tools

Picking up steam again

By COLIN JONES

The appalling conditions of almost 90 per cent. The latest 1971, when machine tool markets collapsed virtually the world over and orders received by the British industry plummeted further and faster than anyone can recall since the desperate days of the inter-war slump, are gradually receding into painful memory. The problems the tool makers are now experiencing are quite different—shortages of manpower, materials, and components and in some cases a shortage of plant capacity too. But, as one company chairman has said: "If we have to moan, thank God we now have these problems to moan about."

Turning point

Looking back, it becomes even more apparent that the turning point in the home market occurred some time around March last year. By then, the decline had all but bottomed out or as one tool maker at the time said: "Things are very gradually getting a little less horrible." The orders total for the second quarter of 1972 was the first for almost a year and a half to show an improvement in current prices on the year before. Then came the £15m. worth of special advance orders placed by public authorities which had been announced by the Government in the early spring and summer—a typical example of pump-priming coming too late to be of maximum help. This led to a doubling of the order flow between the June and September quarters. But the underlying improvement without this of 1971-72 and the revival on the special boost was probably at least a third in current prices on 12 months before.

By the last quarter the floating and effective devaluation of the pound from June 1972 could not have been better

timed. True, price elasticity can be pretty low on many types of specialised industrial equipment. If the specification, performance, and delivery date are right, the initial cost can be of purely secondary consideration. But this is not wholly true for all types of machine tools, especially the fairly standard lines. And, even where price elasticity is low, a lower exchange rate against the currencies of major markets, like those on the Continent, can do wonders for the profitability prospects of export shipments. Irrespective of the precise benefits of the devaluation of the pound, however, it is clear that export orders as a whole began to recover from about mid-summer last year onwards. By December 1972—February 1973, the latest three-months for which official statistics are available, the flow of export orders was running about 22 per cent. higher on a twelve-monthly comparison and, according to random reports from individual companies, the rate of advance on an annual basis has now probably risen to close on half.

Swift recovery

In combination, the recovery in new home and export business has thus been as prompt as the drop in 1970 and 1971. It is, therefore, not surprising that "bottlenecks" in the availability of manpower and the supply of materials and components have been so quick to recur. True, the rate of turnaround in output has been more moderate compared with the turnaround in orders. The trend rate of new orders did not intersect the trend rate of deliveries until last winter. Practically all companies had been manufacturing for stock

during the slump and many were still making tools ahead of orders until a few months ago. It is only relatively recently that many delivery dates have begun noticeably to lengthen out beyond the normal manufacturing cycle period. Likewise, import and export shipments were only fractionally higher in value terms in the first six months of this year as compared with the same months of 1972. In terms of total tonnage—not necessarily a true indication of volume after allowing for price changes—the 1973 figures were actually down on 1972.

Even so, the speed of the turnaround in orders for capital equipment took much of the engineering industry by surprise and it is largely this that has contributed to the supply shortages which are now plaguing the industry, including the machine tool sector.

A survey of 950 engineering establishments conducted by the Engineering Employers' Federation in June and July 1972, found, for example, that capacity utilisation in the industry was then running at about 80-85 per cent. The sampled companies reckoned that, on average, they could raise output by about 8 per cent without the same total labour force as they were then employing. And, even though orders had already begun to recover, the majority thought their major problems over the next six to twelve months would be lack of orders, inadequate profit margins, in-

creased costs, and labour disputes. Only between a tenth and a fifth thought that the availability of skilled labour would be a cause of difficulty.

In the machine tool sector, capacity utilisation was on average running at only about 73 per cent and the median estimate of the increase in output with an unchanged total labour force was 18 per cent. This was after skilled men had been dismissed by the machine tool makers in their thousands during the 1970-71 slump. Alfred Herbert, the biggest company, had alone reduced its payroll from just over 11,000 to about 7,000. Admittedly, the recent manpower recruitment experiences of the companies have varied tremendously: a lot seems to depend upon the grades of jobs offered and the localities in which the offers are being made. Some companies are facing considerable difficulties while others are claiming to be little troubled as yet. But some problems were inevitable given the extent of the cut-back and the speed of the subsequent pick-up.

Special steels

Much the same background lies behind the complaints now being made about the supply of such items as special steels, bearings, and precision castings. Their suppliers—who also serve other engineering customers—have been overwhelmed by the sudden inundation of orders. In the case of certain special types

Plessey engineers have been working shifts to complete the new NC controls which will be exhibited for the first time at the Hanover Exhibit which opens to-morrow, Tuesday, and continues until September 27.

of bearings deliveries are now being promised some 18 months after the orders are placed.

Castings are a more special case. Before the slump most machine tool makers made their own castings but many foundries were shut-down or their operations drastically curtailed in the battle to avoid insolvency. These actions are not easily reversed. As a result, delivery times for most types of castings have doubled or trebled since last winter.

The wider question, inevitably, is whether the drastic

reductions in the industry's overall capacity during the slump will prevent it coping with the load now building up.

Whether, in short, the peak of the cycle will be accompanied by an even greater volume of imports than before.

Much depends upon the rate at which orders continue to arrive. One or two companies are already detecting some slackening at home. Most expect some kind of flattening to develop sometime after mid-1974, although lengthening delivery dates may induce some-

thing of a flurry of panic before then. Abroad, it is thought likely to continue to build for rather longer.

But the machine tool industry has become increasingly international: buyers days scour the world for the right buy. And, after the bitter experience of machine tool cycle, many panics are determined to remain profitable during troughs rather than end to cope with the peaks.

are firmly convinced the cycle has not disappeared

Industry's changing structure

By GEOFFREY OWEN

A decade ago, when criticism of the machine tool industry's performance was at its height and numerous Government committees were established to find the remedies, the fragmented structure of the industry was widely regarded as an important source of weakness. Hence the mergers and take-overs which transformed the structure of the industry during the early and middle 'sixties were generally welcomed by the Government.

It was during this period that many of the industry's long-established, family-controlled companies were absorbed into large groups, and powerful outsiders like Tube Investments, Staveley and others were investing heavily in the machine tool industry. While a substantial number of medium-sized and small companies were left untouched, the wave of acquisitions had the effect of concentrating at least half the industry's output in the hands of about half a dozen large concerns.

Serious mistakes

The question that is hard to answer is whether these changes in structure have brought about a long-term improvement in the industry's competitive performance. It is certainly not difficult to demonstrate, with the benefit of hindsight, that some serious mistakes were made. The prices paid were often too high, and there was an excessive faith in the virtues of rationalisation; the speed with which the fruits of mergers could be harvested were vastly exaggerated. There may even have been in some quarters a basic misunderstanding of the nature of the machine tool industry and of the factors that make for success in it. That management eventually came to recognise these mistakes can be seen in the disposals and

hiving-off operations which took £194,000 in the preceding year. Yet this was a company which, it is no secret that one or two of the bigger groups are looked at from time to time as take-over targets, either for "asset-stripping" purposes or simply because someone thinks that the assets could be managed better. But making and selling machine tools is not an easy business. With its long production cycle and chronic fluctuations in demand, it is not the most attractive field for an "entrepreneurial" management to invest its surplus cash. Further structural change of the far-reaching kind which a machine tool occurred in the 'sixties is, therefore, unlikely in the

future. The big groups like Alfred Herbert and Staveley will continue to seek their own salvation through greater internal efficiency and facilities, in specific machine tool cycles, changes may well involve gear-cutting machines decisions to phase out certain product lines and to concentrate on those areas where the company has a realistic chance of maintaining a position of world leadership. For while success in the machine tool business may be achieved by companies with widely different size and ownership patterns, there is little doubt that the principle of product specialisation is the right one to follow.

Dried up

Any attempt to assess the usefulness of the industry's structural changes has to take into account the crippling recession of 1970-72, when orders for machine tools virtually dried up and many companies had to shed labour and reduce capacity on a drastic scale. In these conditions it was hard enough for any machine tool producer, small or large, to turn in a profit. Certainly the heavy losses recorded, for example, by Alfred Herbert indicated that size and diversity of products afforded no protection against the recession, and contrasted significantly with the performance of, say, Jones and Shipman, a much narrower product range, which has shown a remarkably consistent profit performance through good times and bad.

Yet it would be wrong to draw the firm conclusion that the small specialist is always able to ride out a recession better than a big group. After all, one of the companies hit hardest during 1971-72 was Newall, which had earlier successfully resisted a bid from Tube Investments and had been regarded as one of the strongest medium-sized units in the industry; it is roughly similar in size to Jones and Shipman. In the depths of the recession Newall reported a loss of £772,000 after a profit of £194,000 in the preceding year. As for incursions from outside, it is no secret that one or two of the bigger groups are looked at from time to time as take-over targets, either for "asset-stripping" purposes or simply because someone thinks that the assets could be managed better. But making and selling machine tools is not an easy business. With its long production cycle and chronic fluctuations in demand, it is not the most attractive field for an "entrepreneurial" management to invest its surplus cash. Further structural change of the far-reaching kind which a machine tool occurred in the 'sixties is, therefore, unlikely in the

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Small mergers

Any further restructuring of the British machine tool industry may well take the form of relatively small-scale mergers on the Marwin-Kearney and Trecker pattern. Within the industry there is too much recent experience of mergers that have gone wrong—no one is about to repeat the errors of that Staveley made in the 'sixties. Modest acquisitions to round out a product line or to get specific design skills may well make sense, but large-scale rationalisation has gone out of fashion in this industry. As for incursions from outside, it is no secret that one or two of the bigger groups are looked at from time to time as take-over targets, either for "asset-stripping" purposes or simply because someone thinks that the assets could be managed better. But making and selling machine tools is not an easy business. With its long production cycle and chronic fluctuations in demand, it is not the most attractive field for an "entrepreneurial" management to invest its surplus cash. Further structural change of the far-reaching kind which a machine tool occurred in the 'sixties is, therefore, unlikely in the

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MACHINE TOOLS III

مكينات الخرج

British exporters confident of their place in the overseas markets

By DAVID CURRY

Two basic facts stand out in any analysis of the machine tool industry's trade. The first is that the cyclical pattern which bedevils the industry as a whole; the second is the complementary nature of the trade between industrial countries.

A new factor which must now be taken into consideration is the relative value of the pound in relation to that of the currency of our major partners and competitors. This is a particularly important matter for the machine tool industry since half the machine tool imports into this country are from West Germany whose currency has moved most in relation to sterling and Germany is consistently one of the top handful of export markets for the U.K., taking about 10 per cent. of our exports. Whether the sharp upward movement of the mark in relation to sterling will disrupt this situation is the big unknown at the moment.

Cyclical pattern

The trade with West Germany illustrates the cyclical pattern business. In the past seven years German exports to this country have had two peaks. The first was in 1968 when they rose from DM163m. in 1967 to DM244m. in 1968. They then sank to a low of DM165m. in 1969 before climbing to 1225m. in 1970. By 1972 they were at DM174m. out of total imports of DM360m. Britain's exports to Germany followed the same story. From 138m. in 1965 they sank to DM30m. from then on until three years 1968-71 when they progressively registered 49m.; DM82m.; and DM87m. before slipping down to DM53m. in the recession year of 1972. Our trade with West Germany illustrates the complementary nature of the industry. The first German exports to the U.K. in 1972 were lathes (425m.); capstan and turret lathes, automatics (DM15m.);

milling and horizontal boring machines (DM21m.); shears and metal working machines (DM11.4m.) and wire working machines (DM13m.). Although at a much lower level, Britain's sales to Germany are heavier in almost exactly the same categories.

This illustrates another important point. There are very few items in the composition of trade between industrial countries which cannot be replaced by a domestically produced product. There are, of course, exceptions. Britain would be hard pressed to find home replacements for some of the very small Swiss machines which have been developed for the watch industry and for some of the very large machines which come from Germany.

But generally a domestic substitute may be found, and this is where the effects of currency movements may prove vital. The big competitive advantage the U.K. manufacturers have through the depreciation of the pound should also militate heavily against German exporters both in selling to the U.K. and in third markets, while British exporters are confident that they have a remarkable opportunity to sell to Germany.

However, there is not necessarily an easy formula which says that a depreciated currency is an export catalyst. It tends to come back to our old friend the cycle. If the British cycle, when it reaches depression, happens when demand is still buoyant overseas then manufacturers have a reasonable hope that the cheapness of British products will enable them to step up exports to iron out the effects of the cycle. If, on the other hand, the story of the last recession is repeated, when it was a European-wide phenomenon, the compensatory advantages of a depreciated currency may be far less relevant.

Even on the German scene there are doubts. The anti-inflation measures in Germany

include strong discouragement of new investment, and this may diminish the opportunities in an otherwise very large market which absorbed more than DM700m. in imports last year. On the other hand, if there develops a substantial exodus of German companies seeking manufacturing facilities outside Germany in, for example, Brazil, a path being taken by some vehicle and automotive component manufacturers, the opportunities may be deferred and shifted outside Europe.

Strong stimulus

Within Europe France is the market which is bucking the trend. From sales of £7.5m. in France in 1971 there was some slippage to £7.3m. last year, but this was in a period of recession when the purchases from the U.K. by Germany had sunk to £5.3m. The continuing process of re-equipment of French industry and the Government-sponsored programmes of creating larger manufacturing units is clearly a strong stimulus to investment and France has, over the past three years, soared into third place in our export league table overall and may even be pushing Germany for the No. 2 spot within a couple of years.

Last year the Soviet Union was the biggest British market, taking £8.8m. in goods. But in Eastern Europe so much depends on large single contracts that it is very hazardous to make forecasts. Within Eastern Europe Poland is regarded as particularly promising, an opinion not only held by tool and gauge makers since in the first six months of this year Poland climbed substantially above the Soviet Union as an overall British export market.

The Japanese, though the world's fourth largest producer last year (production DM2,794; exports DM1,460m.; imports DM324m.), has not yet made the impact on European markets that certain of their electrical goods manufacturers and motor companies have registered.

Japanese sales to Germany last year were only \$4.3m. and to Europe as a whole just over \$10m. in 1971 and below \$8m. in 1972.

As for new export areas the three markets which the industry tends to pick out are Spain, Brazil and Mexico. Spain is, of itself, a significant producer of machine tools, ranking 12 in the world league last year ahead of Sweden with production estimated at DM388m., exports of DM143m. and imports of DM214m. Spain is regarded as a coming export market partly in the light of the likelihood of considerable investment in the motor industry going to Spain and the rapid development of a Spanish shipbuilding industry.

Brazil is still a relatively small producer (DM148m. last year) but her imports of DM161m. make her a significant market and one likely to expand with the surge of European investment in industries like vehicle building and automotive products with a high demand for machine tools. Mexico is a tiny producer, but her imports last year were DM226m. making her about the tenth largest importer in the world.

The Machine Tool Trades Association is planning extensive promotions in Latin America over the next couple of years.

Less reliable

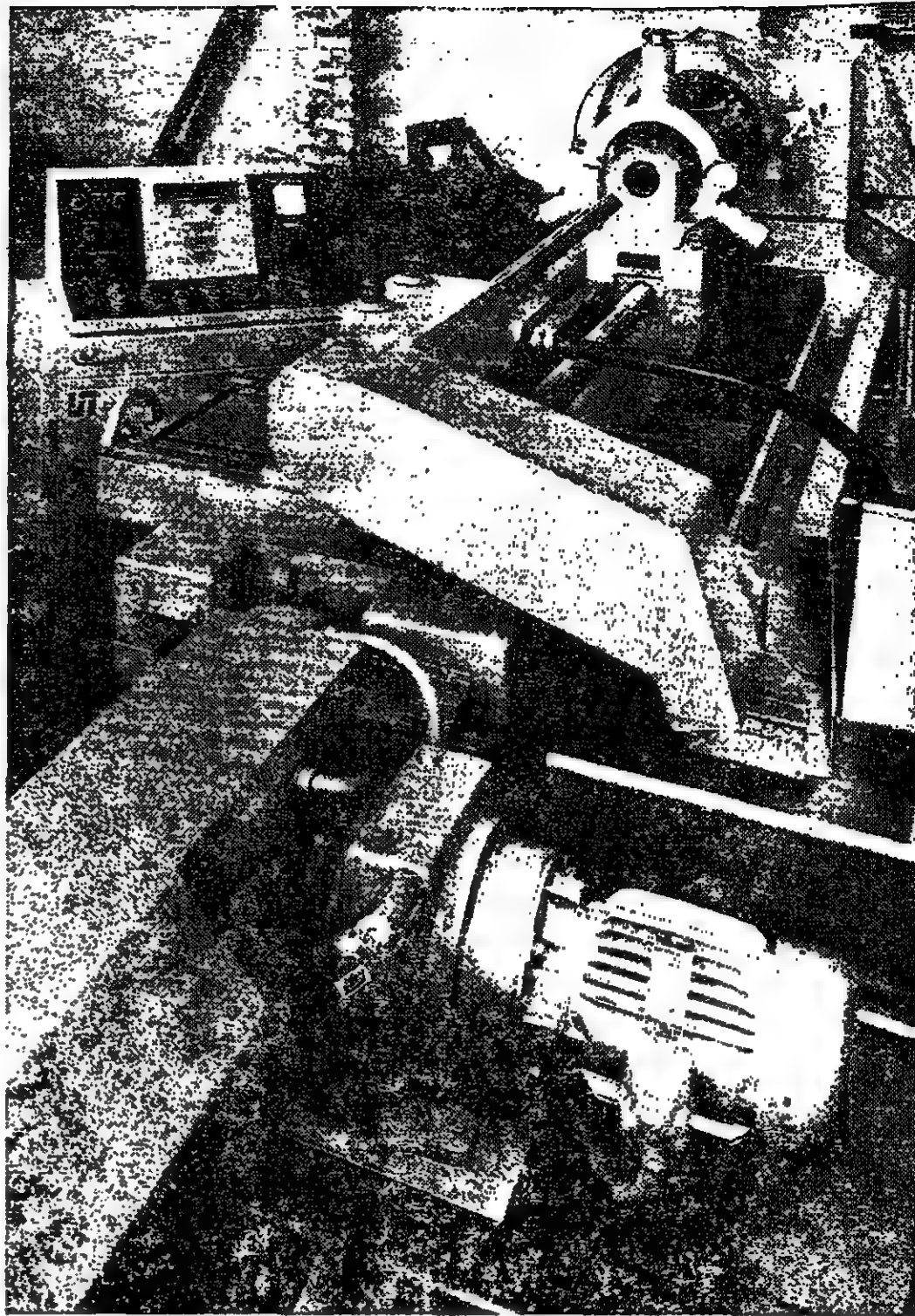
The traditional markets, like Australia, are regarded as less reliable customers than before. Ironically, while manufacturers now see Latin America as showing more of the political stability that reassures traders, they are beginning to wonder whether or not some of the traditional white Commonwealth countries are proving less stable with the increasing pressure of economic nationalism and tendency towards tighter controls on investment. The industry is, then, very optimistic about this year, opt-

mistic about the next, but has a lurking fear that 1975 may see the swing back into recession. This year a U.K. turnover of about £190m. is being privately forecast, although there are some worries about possible steel shortages and problems over ball-bearing supplies—the industry has traditionally demanded custom-made bearings and is having to adjust to using standard products as the ball-bearing industry itself rationalises.

Delivery problems

On the export side there is confidence of consolidating markets, thanks not only to currency changes but to good products and the ironing out of delivery problems. Apart from that there is a strong fatalism about the certainty of future depression; the hope is that the depression will not be universal but that there will be sufficient time-lag between its effects in different countries to enable exports to iron out some of the troughs into which the industry has sunk in the past.

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MACHINE TOOLS IV

Britain competitive with European manufacturers

By ANDY McELROY

Ever since the 1940s the sight it would be difficult to British machine tool industry blame them for this. Their cus- tomers wanted what they knew, and were prepared to forego technical improvements for early delivery.

As recently as last year forecasts were being made on the length of time the industry could survive against Continental competition, given our entry into the Common Market. There is an implicit assumption in many of the statements made about the industry that Germany is technically superior while Japanese manufacturers offer better value for money.

But is it fair to throw bricks at the industry? Certainly it deserves them if it cannot compete on level terms with manufacturers from Continental Europe or from North America, or even if it is losing out to Japan which can still, despite inflation, boast one of the lowest wage rates of any industrial economy.

Best value

To understand how the industry acquired its reputation—and, incidentally, many of its albatrosses—one has to go back to the years immediately after the Second World War.

Before 1939 any country in the old Empire that wanted machine tools came to Britain. There was never any doubt in the mind of the Australian or Indian user that it was in this country that he found the best value for money.

After the war, however, times changed rapidly. The Empire and the captive market had disappeared because the old colonial nations had realised that the United States was a source of effective production equipment that had been proved during the years of the build-up for the invasion of Europe.

The British industry was either bombed or worn out. And in the years during which German industry was growing with the help of Marshall Aid U.K. manufacturers were turning out machines to 1930s designs as fast as they could, saving the advantage of hand-

quarter of a century. Alternative markets were not in a buying situation. If one is investing in an automated machining centre capable of very high production rates one must be able to foresee a market growth that will at least cover machine amortisation. Germany, as Britain's principal competitor in the European machine tool market, has succeeded in establishing itself in this country in the mid-60s with automated equipment. Thus last year, and even as long ago as 1969, British customers pointed to German companies as exemplars of what U.K. industry should be doing.

Worst enemies

It has been said time and again that the English are their own worst enemies, and this is truer of their attitude to home-produced machine tools than to any other industry sector. Yet if one looks at the five-year period between 1967 and 1972 it can be seen that British exports to the present EEC countries grew by a factor of 2.5, while imports declined to less than half of the initial figure.

While accepting that 1972 was an unusual trading year it takes a good deal of credulity to accept the figures. The last "normal" year—1971—gives figures of £28.3m. exports and £24.7m. imports. Exports had, on this basis, increased 3.5 times over while imports had fallen by about £700,000.

This growth of the European market is borne out by the figures for Germany alone, which is sometimes considered, as has been said, as the repository of technological advance. In 1967 exports to that country were £1.9m, while by 1971 they had reached more than £8m. In 1972 they had again fallen to £5.3m, and though this figure is well below the peak it still shows a healthy growth in trade over the period.

Jumping to conclusions on a basis of bald trade figures is an inclination that is hard to resist, but one can, to a first approximation, say that Continental machine tool manufacturers have been losing ground on exports against the background of a thriving economy while improving their performance against a home market that has been neither healthy nor steady.

When one talks to the Machine Tool Trade Association it becomes clear that the industry knows what it is doing, given one or two exceptions. As far back as 1958 the machine tool sector of the mechanical engineering industry lobbied for a reduction in duty on machine tools from 17.5 per cent to 10 per cent, an indication that they were prepared to fight without protection for the valuable European market.

Secretary to the association Mr. P. H. E. Warwick points out that selling successfully in overseas markets is nothing new to the industry. Machine tool manufacturers, as he says, were in Europe long before Britain signed the Treaty.

World background

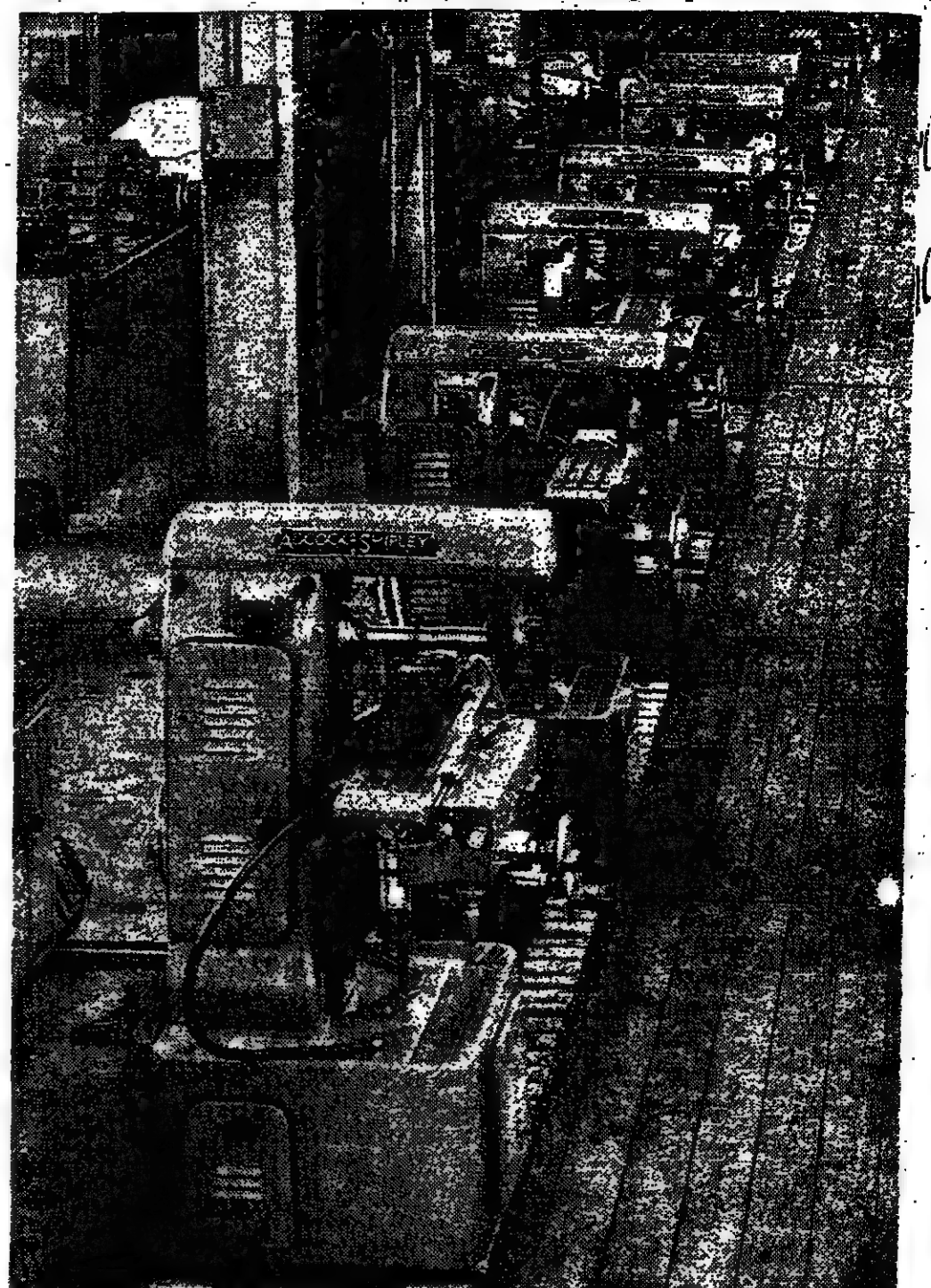
Speaking of the success of British manufacturers, he said that European trade must be looked at against a world-wide background. In 1971 the U.K. exported twice as much, by value, as it imported, £93.5m. as against £49m. In 1972 exports fell by about £14m, while imports rose by £1.8m, but that still left the U.K. with a positive balance of £31.6m. on the account.

And in any case, says Mr. Warwick, it is only to be expected that any country in the EEC, or indeed in the world, will import substantial numbers of machine tools. According to Customs and Excise there are no fewer than 450 separate categories of machine tool, and it is unrealistic to expect any country outwith the U.S. to have manufacturing and development capability in all categories.

Fragmentation of effort, as one must have in the comparatively small European nations, inevitably means that in the next few years there will be amalgamations between existing companies. On the automation side there is already a high degree of technical co-operation and the companies that sell control systems separately from the tools themselves already find that their production is being dictated more by a European consensus of requirements than by the needs of an individual nation.

In machine tools, as in most other areas of industry, there is constant discussion as to what shape cross-frontier co-operation should take. Britain's role is hard to define. Three years ago one could have said that the future lay in simple but effective equipment of the type that Colchester Lathes has marketed so successfully. Another viewpoint is that the electronic ability of companies like Plessey—ignoring for the moment the computer manufacturers per se—could be used successfully with German, Italian or French machines.

On any reckoning, the British industry stands comparison with anything else in the Common Market, quite apart from its competitiveness in the rest of the world.



Modern flow line production methods used by Adcock-Shipley at Leicester factory for the manufacture of the Model 1ES range of mill machines. Adcock-Shipley are Western Europe's leading producer of ing machines.

Still no grounds for complacency

By HAROLD BOLTER

The U.K. machine tool industry had a favourable trade balance last year in the ratio of very nearly 2:1, selling members.

It might have been expected that the sudden upsurge which has taken place in machine tool orders in the U.K. would lead to a much greater import penetration, simply because the British industry, having carried out a very heavy programme of rationalisation, would be unable to cope.

At the moment it is generally assumed that entry into the Common Market will lead to increased sales in both directions while the much higher tariffs that British machine tool producers will face in many cases in markets such as Australia, Canada and New Zealand can be expected to lead to some loss of market leadership in these areas, against not only other EEC countries but also the U.S. and perhaps Eastern Europe and Japan.

So far as European competition is concerned, the British industry starts off with a distinct advantage. Traditionally, Britain has been a fairly static market for the six original members of the EEC over the last few years while Europe has shown increasing promise for U.K. manufacturers.

Britain's machine tool builders have increased their sales to the Common Market from £8.4m. in 1967 to £21.5m. last year, despite tariff barriers, while U.K. imports from the EEC, after hovering around the £20-25m. mark for five years fell to £11.6m. last year.

While 1972 was a bad year for everybody trying to sell machine tools in Britain, brightening up only in the last few months, it was particularly disappointing for the EEC producers. At the very least British manufacturers have as good a base on which to build in Europe as European manufacturers have here.

Wider market

There is an argument that the U.K. is at an initial disadvantage in that British machine tool builders must try to exploit six different markets while established members of the EEC need only concentrate on one, Britain.

But that seems a little superficial. It is at least possible that British producers, particularly if they approach the different markets in a more concerted manner, have a greater oppor-

ty for expansion in a much wider overall market than is available to the other EEC members.

The movement towards product rationalisation has been gathering pace in Britain during the recession. Nevertheless, there is still a fair amount of duplication of individual products. Again, although this means that there is a choice available between products with similar specifications, their competitive effectiveness in foreign markets or against imported machines tends to be restricted by a lack of technical development and market compatibility.

As British manufacturers tend to specialise more in particular sectors of machine tool production there is every likelihood that they will import complementary machine tools and carry them, for marketing purposes, as part of their range.

Equally, there has been a recent trend, which will almost certainly accelerate, for the larger European producers to set up their own sales organisations in Britain rather than rely on merchants, in much the same way as has happened with foreign companies in the motor industry.

Nevertheless, the European Association of Machine Tool Merchants, recently established in London and with a far more healthy relationship with the MTTA than has previously been the case, does not believe there is room for any real concern at present.

Main problem

Merchants have benefited in the last six months from a considerable improvement in business, in second-hand machine tools as new ones, in both the import and export fields.

Their main problem at the moment is less the longer-term role they may play in the industry than the obvious difficulty, as far as imports are concerned, about the changing relationship between foreign currencies and the £.

Additionally, of course, they are as concerned as the manufacturers about the cyclical trend of machine tool sales and the effect this had on their business. For this reason the AMTM has joined with the MTTA in representations to the Government in representations for the introduction of a new investment scheme aimed at smoothing out the peaks and troughs of demand.

More digital grinder developments for the auto industry

YET again LANDIS LUT from Yorkshire, England, announce another new development in the application of digital control to grinding. This time it is a new grinding machine, the LANDIS MICR, which is designed to grind complex shapes to high precision. The machine is controlled by a digital system, which allows for a wide range of grinding operations. The machine is designed to be used in the automotive industry, where it can be used to grind a wide range of components. The machine is designed to be easy to use, and to provide high accuracy and repeatability. The machine is designed to be a significant improvement on existing grinding machines, and to provide a new level of precision and accuracy in grinding operations.

A similar system is used in plain and universal machine tools, known as the LANDIS MICR TRONIC feed.

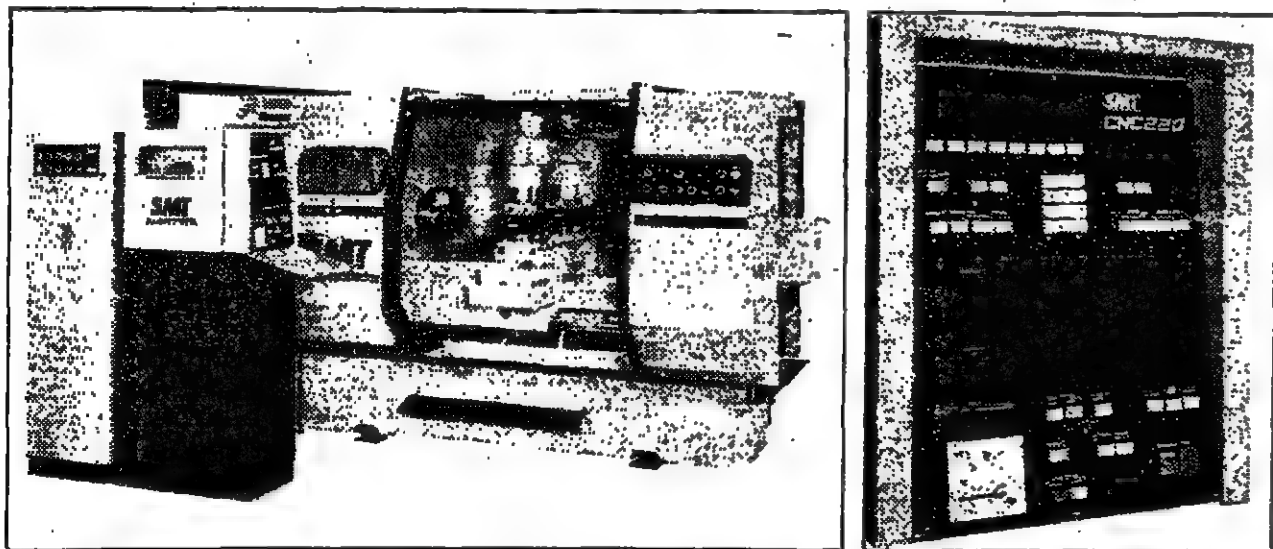
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The control system is based on a principal: complete part programming in the memory store. Pre-program information in the form of a tape is only used once - for input of the program into the computer. The program is then available for correction on "probe out", making adjustments from the control panel eliminating unnecessary tape preparations. Besides, there are many other uses for these facilities.

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Product development programme gets under way as profits recover

by KENNETH GOODING

No one disputes that the most recent recession in the machine tool industry in the U.K. was a most appalling one. Its impact on the industry can be judged by the figures from Alfred Herbert, the largest company in the industry, which has incurred losses totalling more than £3m. during the past two and a half years while looking for a break-even in trading by the end of the current financial year next month (October).

Like the rest of the industry, Herbert had to make a further major retrenchment. It concentrated its attention on reducing overheads, stocks and stores and on streamlining down manufacturing facilities into four plants. But it still had to continue to develop the product range and ensure its up-to-date status. Major renovation of the product range is necessary, are frequently nowadays cause of changing technology of customer requirements, and it means the machine tool manufacturer needs a competence in design and manufacturing of a different order than that which was adequate in the past. Making this point his latest annual statement, Richard Young, Herbert's chairman, also maintained: "Had cost of doing this been reckoned on the grounds that in trading conditions so tight, there can be little bit that Herbert would not have held, as it now fairly does, its place in the effort of machine tool industry."

Trade missions

It is not only Herbert that has to press on with product development during the recession. There is a long list of new machines being shown by U.K. manufacturers at fairs, and during the past trade missions from France, Germany, Spain and the Middle East of the U.S. have to away impressed by the sophistication and variety

offered by British machine tool companies.

But the industry is still, to a great extent, made up of a large number of small companies, and one is left with the feeling that during the recent "trough" some of them were only just managing to hang on. There were, in fact, some spectacular closures. Staveley Industries in June last year shut down the Worcester works of its Archdale division, pointing out that, as a maker of special purpose machines for the automotive industry, it had suffered much more than the remainder of the Staveley Machine Tools subsidiary from "the savage recession in machine tool orders." Continuation of the business, even on a reduced scale, would produce "unacceptably high trading losses for a long time to come." Some 400 people were affected by the closure which did produce "a significant improvement in Staveley's cash resources."

In the same month came the news that Herbert-Ingersoll had been put in the hands of a receiver and manager. H-I had been set up in 1968 by Alfred Herbert and Ingersoll Milling Machine of the U.S. with the support of the Industrial Reorganisation Corporation and the Government, which contributed £1m. towards the venture. Its aim was to produce tailor-made machines at the heavy end of the industry.

The demise of H-I can be blamed only partly on the recession in orders—which the management forecasts completely misread—because the company was also saddled with a heavy debt load, around £340,000 of interest payments a year, and a particularly conservative method of accounting, which involved all development and start-up costs being taken into the profit and loss account. The venture cost Alfred Herbert £5.25m., and when it closed, down it contributed to the decline in the machine tool industry's manpower. For it is

in the reduction of the total workforce, apart from the major closures, that the retrenchment process can be spotlighted.

Since 1969, when the industry had 59,000 employees, there has been a 20 per cent. reduction to 46,000. Some of the big companies were even more severe. Staveley, for example, cut the machine tool work force from 5,000 to 2,500 while still retaining 80 per cent. of the original manufacturing capacity.

Closure costs

At Alfred Herbert the average pay roll two years ago included 11,000 people, and by the end of the present year this should fall to around 6,500. Herbert closed the Churchill factory in Manchester (moving the operations to Coventry) and its redundancy and closure costs—charged to the profit and loss account—totalled £1.28m. in 1972 and £320,000 in 1971.

On a smaller scale in the year to November 1972, Newall Machine Tool reduced the total of employees from 1,754 to 1,350 at a cost of £45,000 in redundancy payments, but the total wages bill fell from £2.47m. to £1.9m.

Newall provides an example of a company in serious straits even for this troubled sector of the industry. In its last financial year it lost £772,000 pre-tax and will be reporting losses again in the current year. To add to its embarrassment, Newall fought off a £1.9m. bid from Tube Investments 18 months ago, and less than a year before it plunged into the red, on the grounds that it was "in a stronger position than most in the industry."

It was not only the employees on the shop floor who felt the impact of the near-disaster. The complete management team of Newall was restructured and only one of the five previous directors remained on the Board when the dust settled.

The managerial links with the Player family which built up Newall and took it to the public in 1936 were severed when both

the chairman, Mr. Denis Player, and his brother, Jim, who had been heading the group's sales company, resigned. Traumatic indeed.

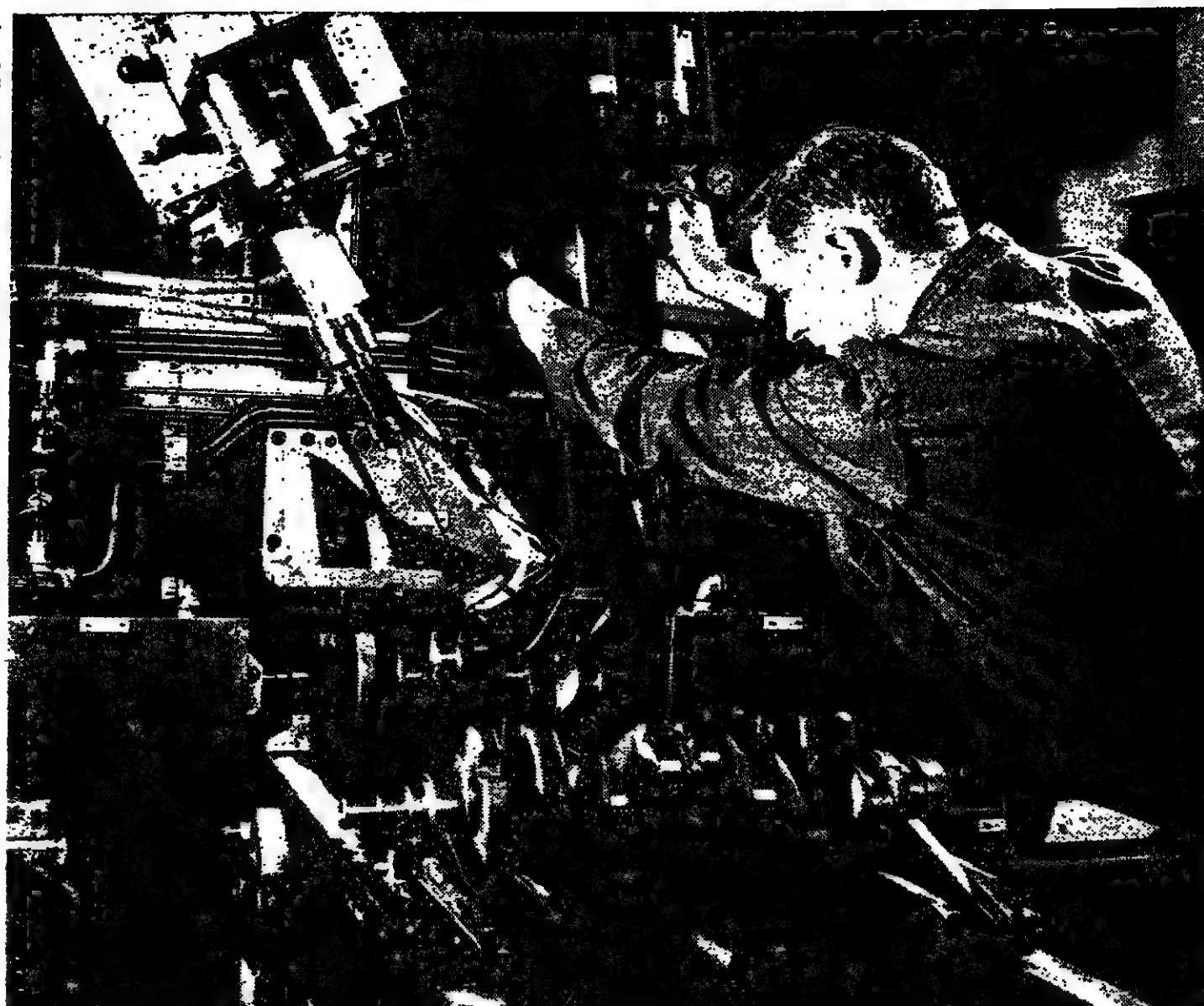
Through all the depressing times for the industry, those companies which are better known for the good, middle-price, functional machines needed in workshops anywhere in the world seemed to survive in fairly good shape—companies like Colchester Lathe, Jones and Shipman and Wadkin. But this is not to suggest that the industry is mortgaging the future by concentrating on "everyday" machines at the expense of more specialised ones. And there is also good evidence to show that the industry practises what it preaches and is using less old (more than ten years in use) equipment than most other sectors of British industry.

Sir Richard Young of Herbert echoed the industry's sentiment on this point when he commented: "Unless industries using machine tools do keep equipment up-to-date, they can be saddled with the burden of uncompetitive costs and levels of work in progress, as well as with waste of space and long lead times. These disadvantages increase as inflation increases. In a word, up-to-date machine tools are an essential defence of real profits and competitiveness, especially in times of inflation."

Financial problem

One result of the streamlining process which the industry has undergone is that it should result in the financial results of the industry being less cyclical than in the past even if the future peaks and troughs in order intake maintain their past strongly fluctuating pattern.

But there is no doubt that the industry should not allow that in times when industry is flush with cash, some of it the boom which is now getting under way to divert its attention from attempts to get at the very roots of its financial problem—this cyclical ordering pattern. The Machine Tool Trades Association has for many years been trying to get the U.K. Government to devise



a method which even out the group of MPs who at least understand the industry's problems. As the next step automated transfer machine will process machine produced for the Ford Motor Company's engines at the rate of one every 30 seconds, drilling and Son Ltd. — the all oil holes to fine tolerance machine tool manufacturing.

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MACHINE TOOLS VI

New approach to cyclical patterns of investment

By MICHAEL CASSELL

The remarks made last week by the President of the Machine Tool Manufacturers' Association served to highlight the machine tool industry's biggest problem, the cyclical nature of investment on the part of the customers it serves.

The problem has bedevilled the industry since the last war and despite an endless succession of calls for action to be taken to bring about a permanent change in the situation, machine tool makers to-day still face the same difficulties. As the president said: "Unless some method can be found for ironing out these very low troughs it is going to continue to be an inhibiting factor in the technological advancement which must in the next 10 to 20 years contribute so much to bringing to the user the new and better, more efficient, more reliable and therefore most cost-saving machine tools and production techniques which must herald in the 1980s."

Investment incentives, originally devised as a means of encouraging industries to invest in new plant, have been operating in various forms since the last war, with varying degrees of success.

Investment grants

In 1944, investment allowances were introduced and these were subsequently replaced by investment grants on the grounds that the reimbursement of industry was slow and uncertain and that by their very nature, tax allowances were of no value to companies not making sufficient profits to avail themselves of the allowances.

As pointed out in an interesting paper just published by the Edward Herbert Group, which has interests in the manufacture and distribution of machine tools, investment grants were seen as providing greater certainty and faster reimbursement and aid to new enterprises which had not begun to make profits. However, the scheme itself came in for criticism on the basis that by providing benefits to companies, whether or not they were profitable, led to uneconomic investment and a waste of resources and that it discriminated against the service industries and placed an excessive administrative burden on both industry and government.

It supports incentives on the lines of the old investment grants which were effective in immediately improving cash flows not shared by tax incentives. If such incentives were linked to investment policies the controls applicable to the scheme could, it suggests, be more rigid than has previously been the case.

Mr. Derek Hartley, the Group chairman, comments: "While opinions as to the value of investment incentives and the form which they should take vary widely, any scheme which attempts to stimulate capital investment by industry is worthy of support."

Increasing pressure is now certainly being put on the government to introduce investment incentives in slack periods. For over 10 years the MITA has been pressing successive governments to introduce a modified version of the investment reserve certificates scheme in operation in Sweden.

This is not simply because it wishes to follow the scheme blindly but because at the present time it appears to be the only one in existence and seems to operate with some success. Until recently, the Association has been fighting a battle with little support but now several bodies are backing their campaign, including the Gauge and Tool Makers Association and the Machine Tool Manufacturers' Association.

In 1970, the Way Report recommended that investment of Engineers' Tool Manufacturers and several distributive organisations. With the industry emerging from what has been widely described as the longest and most severe recession in the industry's history, the desire to make progress towards some stabilisation of investment has never been stronger.

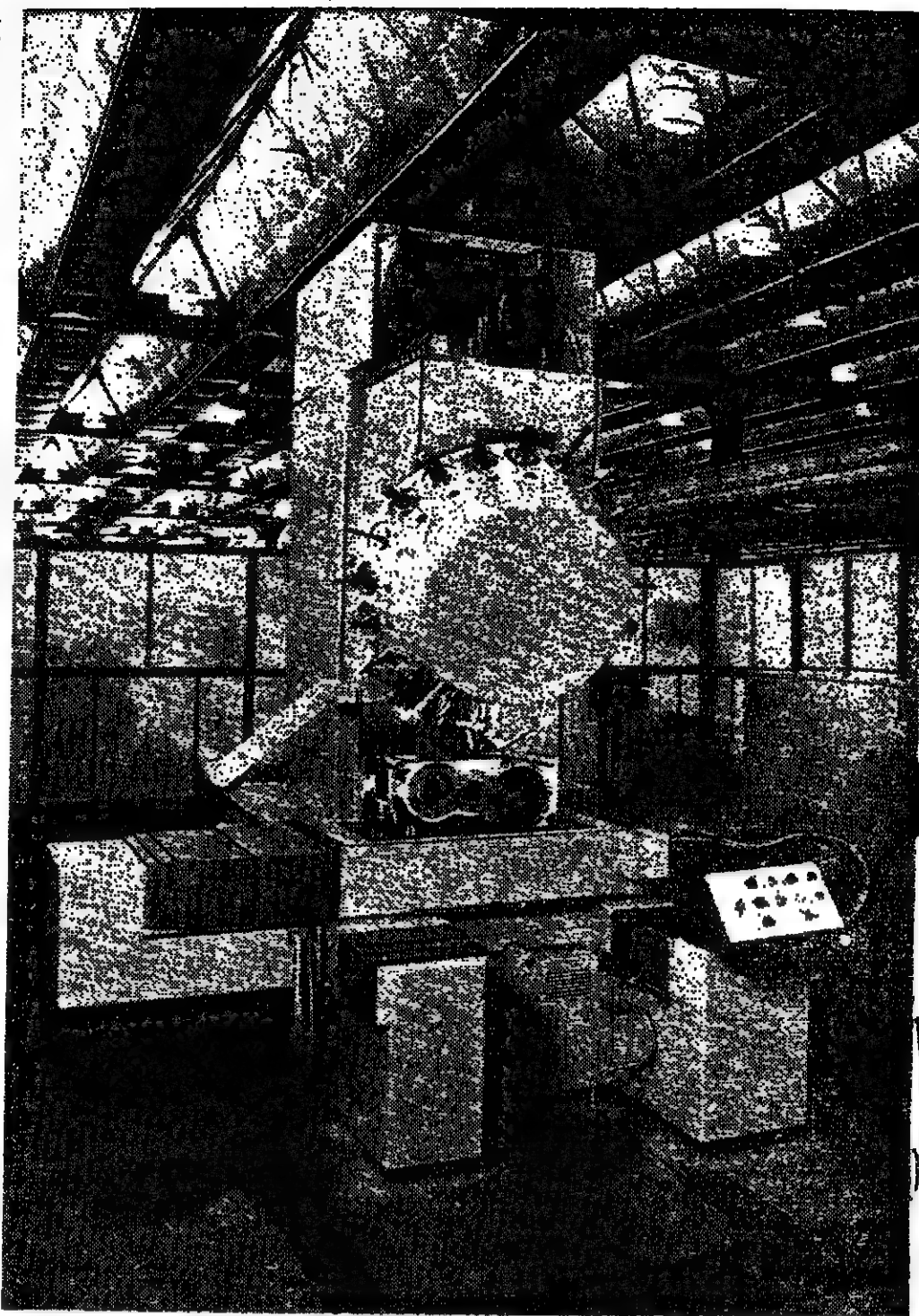
The so-called Swedish scheme provides fiscal incentives by giving tax relief, in addition to the normal investment incentives, on profits used to buy government interest-bearing "plant modernisation certificates" to be used for later investment, primarily in plant and equipment at times when the government has determined in the light of the economic situation that the funds set aside can be released.

Time lag

However, several fundamental difficulties in implementing such a scheme have been raised. The first is the need for a suitable judgment in determining when the time is ripe for the release of counter-cyclical reserves to be authorised. There is normally a time lag at the start of a recession before a downturn in economic activity is confirmed by the indices but if action was delayed until this confirmation was received, it might come too late to arrest after the falling off in orders for new plant and might only increase the subsequent pressure of demand in the upswing of the cycle.

There is also the important question of cost. Many people think it would require a substantial bonus over and above the normal investment incentives to induce companies to put aside funds for future capital investment on a basis which enabled the government, if not to control, at least to influence powerfully the timing of their subsequent expenditure.

Another suggestion attacks the problem from a different angle by proposing that the government should underwrite, for a small premium, a share of the risks a manufacturer of machine tools bears who seeks to maintain production in a recession by making machines for stock, in the expectation that he will sell them profitably when demand rises later.



Olivetti's new Multianctor vertical machining centre to be shown at IHA will be controlled with three other numerically controlled machines by single tiny computer.

On the evidence available, future capacity requirements. The machine tool industry seems to be a case for encouraging industry to develop investment policies based on realistic assessments of its times which might be introduced of this type of policy.

Numerical control techniques make encouraging progress

By TED SCHOETERS

If proof were needed that the project from the axle which regarding further official support and another the concentration of the project team on light systems.

It is a moot point, whether, if the present computers on a single chip had been available four years ago at less than £100 each, the Molins team would have carried the project through to completion. Probably not, because the cost of software would have been no less and a possibly even more, while it has been various reasons, taken several years for industrialists to realise just how much it takes in man-years to develop a successful software system.

Official support

Other groups, including, have carried the project through to completion. Probably not, because the cost of software would have been no less and a possibly even more, while it has been various reasons, taken several years for industrialists to realise just how much it takes in man-years to develop a successful software system.

There was, however, no concerted rush by potential buyers in Britain or Europe because, at the time, the machine-tool industry was at the bottom of one of its cycles and the last thing users wanted was new and untried equipment. Meanwhile, the initial reaction from the market leaders in numerical control was simple and predictable. It consisted in asking the simple question as to who would pay for the new software development needed if these new minis, some sold as "naked" machines, were to take over machine-tool control.

Now, everyone is a good deal older and wiser and it is an encouraging thing to be able to report that British equipment features in Europe's first attempt to develop a general machine tool control system. The equipment is based on the Minic compact computer built by Micro Computer Systems of Woking, member of the George Kent Group. The unit is being shown in Hannover and it is based on work done originally for and in conjunction with Herbert Machine Tools.

Major advantages of the system are programmed contouring from interpolation routines resident in the core; simultaneous control of four axes; alarm and equipment monitoring and editing of the resident program through an operator panel to allow the same part to be machined in a different metal, for instance. NEL at East Kilbride, main U.K. centre for the theory and application studies of numerical control systems, is using a Minic for a research project on the control of machine tools by computer. The aim is to show whether the manufacturers' claims that minis are less subject to obsolescence than the hard-wired numerical controllers are in fact true.

The computer is general purpose and the software specialised to the area, but capable of being standardised for a whole series of operations. The absence of such policies could clearly detract from the initiating suitable program to encourage the development of this type of policy.

with no need to involve hardware. The Minic has been brought into use at NEL in a much more ambitious project embracing the adaptive control of machining processes and digital numerical control systems where several machines integrated in a computer hierarchy where a last monitoring computer included.

Tough requirement

Herbert's original requirement was the rather tough that the chosen machine should support a general-purpose contained system which could be plugged into any one of company's two, three or four axis turning lathes without the insertion of the appropriate program tape for the machine in question. Many companies bid for the job but the Minic machine won the day. A much less sophisticated development, yet one which could pay handsome dividends for many operators who will be using computer control several years, has been subjected to exhaustive comparative tests by its developers, Smit Industries.

It takes the form of easy retro-fitted digital read-out units and productivity analysis of its application to a cent-lathe showed that increases 10 to 30 per cent, according to the complexity of the work, a easily obtainable. The saving does not come only from the fact that the operator does not have to bring the unit he is working on to halt to apply gauging, it also derives from the much greater ease and accuracy of the readings. Applied to vertical miller the read-outs allow these to be used for jib boring and slotting to accuracies available only on much more expensive machines. Here the time saved is of the order of 30 per cent.

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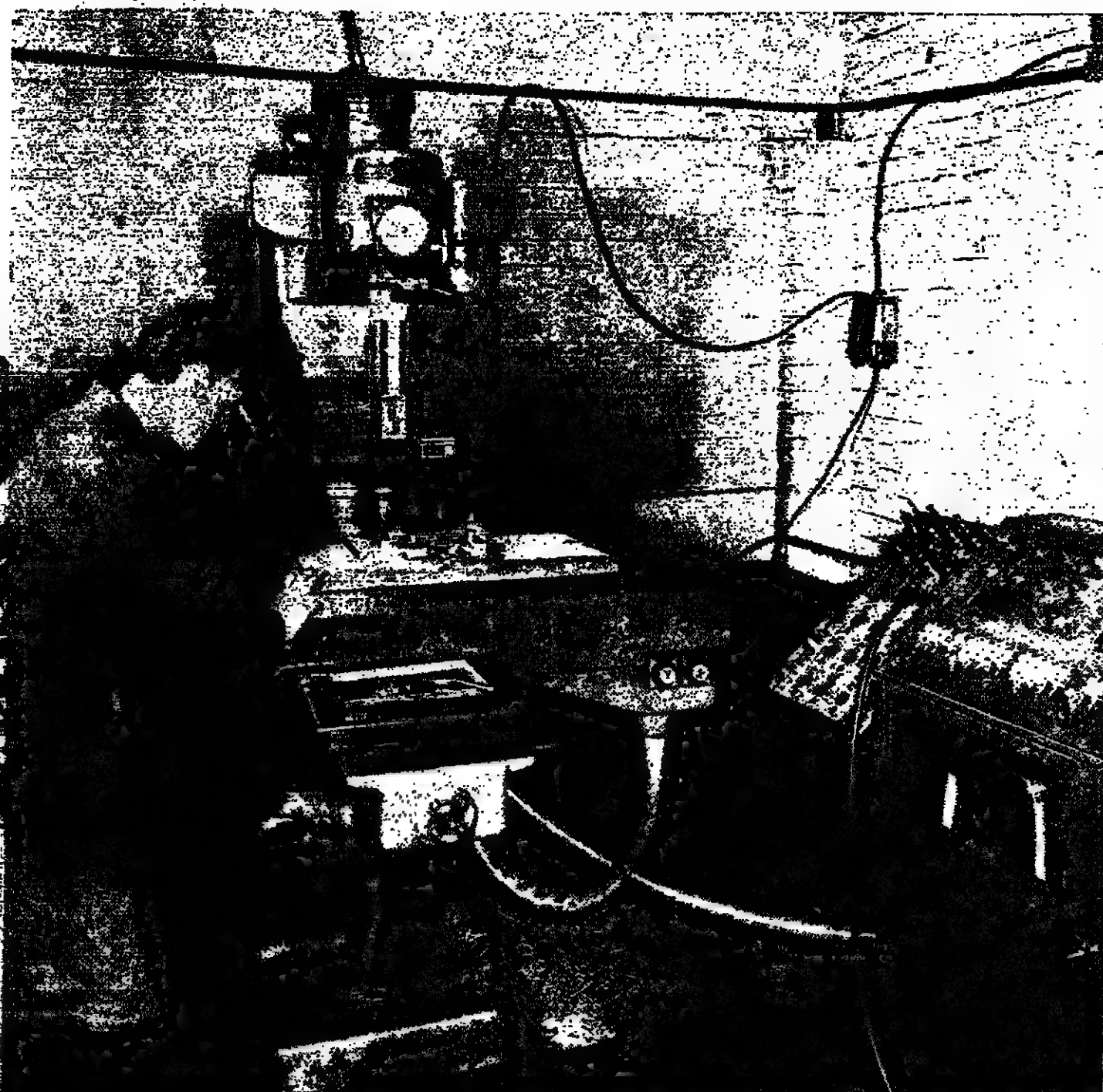
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The built-in tape punch, unique to the Moog machines, can be seen on the right hand side of the control console of this model 1000 TP machine installed at the Birmingham Works of David C. Nash Ltd.

Dividend expected from the EEC

By ANDY McELROY

"For the machine tool industry," says Mr. P. H. E. Warwick, of the MTTA, "Britain's entry into the Common Market was a complete non-event. We'd always been in Europe."

One has only to look at the number of British machine tools in use in German, French, Italian or Dutch factories to realise how true this statement is. Since the 1950s the industry has competed successfully with other European countries for sales both on the Continent and further afield. This country has a healthy positive balance of payments in machine tools, a fact that is not often appreciated by people outside the industry, but one that provides a happy contrast to the situation in other industries.

Growing exports

What is particularly encouraging about the picture is that if one overlooks last year's very bad trading results, exports have been growing at roughly 23 per cent, compound per annum over the last five years.

In the same period imports have grown hardly at all, by value. And given the effects of inflation it is apparent that in terms of the numbers of machines imported our dependence on overseas manufacture is declining.

With such a happy situation that does the EEC have to offer the industry? One forecast that has been made is that the growth of co-operative projects between governments or between companies in different countries will lead to a massive need for re-equipping. Similarly, the expected amalgamation of production units, centralising them in the market so that advantages can be taken of the economies of scale on the production line, will provide a welcome boost.

Commentators on the Conti-

ment in particular are convinced that we are entering the era of massive, centralised factories serving multinational distribution and marketing organisations, and that these factories will be highly automated, even beyond the scale of today's automotive plants.

It would be far too optimistic to anticipate that this will happen on any considerable scale earlier than about 1978 though there have been several examples of production rationalisation within the old Six. Industry throughout Europe is well equipped with machine tools and it seems unlikely that users will be prepared to scrap them for improved versions while they still have so much useful life left.

But if industrial growth continues, even at the fairly low level of the past two years, manufacturing industry might well be forced to think again. Skilled engineers are already in short supply almost everywhere in the Market, and though the increased mobility of labour is expected to alleviate the situation in those countries and regions that are hardest hit the final effect will only be to distribute shortage of men more evenly.

There seems little that can be done to increase the labour supply to any considerable degree. Indeed, the reverse is happening. Recent figures show that the proportion of service industry to manufacturing industry employment is growing. Development of the leisure industries is certain to exacerbate this situation and it is already apparent that, given the choice, young men are attracted more to business careers than to manufacture.

All these factors make it inevitable that the degree of automation employed in factories will increase substantially

during the next decade. Obviously there will be rich pickings for the European machine tool industry as a whole, but what is not yet clear is how the spoils will be divided.

Whenever the use of electronics on the production floor is discussed, most of the examples quoted tend to be taken from the Continent. It is as if the British machine tool user were some sort of backward relation incapable of assessing or using automated equipment.

British origin

This implication is completely untrue. While manufacturing industry in Britain is less automated than in either the United States or Germany, it is almost certainly ahead of the rest of Europe, if one takes as the index the ratio of expenditure on automated production equipment to total spending on machine tools, taken over the last five years.

And again it is not generally realised that in these much-examined French or German installations a great deal of the equipment is of British origin. It is not an uncommon sight to see a bank of German machine tools working in a French factory and controlled by electronics manufactured by, say, Plessey.

In fact, this company has made itself an enviable international reputation in control systems for everything from a single machine tool to a full factory floor. Over the years its designers and marketing men have been involved in work of the very advanced nature, and the experience gained from its successful installations is constantly being fed back to users and machine tool makers in the U.K.

But, of course, it comes back to the attitude that a machine tool, automated or not, is a solution to a problem rather than a piece of hardware. One classic example of this approach is the Wadkin automated range, a range which offers remarkable value for money in European terms. An interesting sidelight on the Wadkin approach is that it has applied low-cost automation to woodworking machinery as well as metal-working equipment.

Several years ago a Wiltshire engineer, Mr. James Hurn, looked at the problem of devising automatic equipment that would save timber to length to improve the efficiency of his own factory. Faced as he was with a shortage of money for development and implementation, he devised a tape control system that, while simple, must be one of the most effective ever produced. His system has now been adopted and refined by Wadkin, who see it as a way of solving production problems at low cost.

It is cost that will be the basis for so much of the new Europe.

دكتور المنصور

Greater degree of planning needed

By a Correspondent

Over the past five years British machine tool exports have grown roughly threefold to a total last year of almost £80m. Although down on the 1971 high of over £93m, it still indicates, as one man in the industry puts it, that there is little wrong with either the tools or the way they are marketed.

During the past few years the home market has been less buoyant than overseas, but the indications are that this year manufacturers will have their best year since the mid-1960s.

By its nature the machine tool industry is a difficult one in which to establish a long-term marketing plan, and yet this is exactly what is needed. At the first sign of a trade downturn the orders curve dips sharply, and when the economy begins to revive, natural caution among customers means that demand is roaring ahead before sales reflect the new prosperity.

Then, as so often happens, everyone wants immediate delivery. Cyclical and unpredictable—that is the nature of the industry. Manufacturers must be able to foresee downturns and cut back production rather than be left with unused machines. Even as production is being reduced plans have to be made for new ranges well before there is any indication of a demand for them.

Companies that do this successfully are those blessed with management that combines the talents of industrialists with the sensitivity of a mind-reader. Predicting a downturn in the market is largely a matter of subjective judgement based on what are no more than minor indications.

Whereas in most other industries plans can be changed in the light of sales information, in machine tools it is far too late to act effectively when returns show a decrease in orders.

But the situation is not as hopeless as it seems. For example, Alfred Herbert, the Coventry group now fighting back to profitability after a near disaster, finds that it can base its assessment of the market on some indicators that are not

immediately connected with their sales. Informal contacts among steel stockholders can give an early warning that ordering of raw materials is falling below the norm for a particular time of year as manufacturers reduce stock levels against a falling market.

Useful as indicators like this undoubtedly are it cannot be said that they provide the marketing department with sufficient warning of a downturn. What the industry really needs is some way of levelling out the peaks and troughs to give something approximating more closely to an even sales pattern. And as the cycle time between successive peaks is roughly four years, any measures must of necessity be long-term.

Suggestions have been made in the past that the industry should be more persuasive in advancing the wisdom of re-investing in capital equipment during lows in the trade cycle. From the management viewpoint this is sound policy, as the alterations and upheaval involved in installing new tools or changing the layout of the production floor can best be accommodated when output is low.

Uncertain demand

Yet how many managements have the confidence to spend heavily while the future demand for their product remains uncertain? And a frequent question when this proposal is made is why the machine tool industry doesn't take its own advice?

This last is rather unfair, and despite the brickbats thrown at the industry its record shows that several companies have management planning and implementation teams that are an example to the whole of manufacturing industry.

Continued prosperity for the industry is cast in question by the need for constant improvements in tools and the late, though growing, adoption of fully automated machining centres. For the marketing man the combination of mechanical and electronic components poses a problem of

accurately assessing the match that will best suit the customer's needs.

Because of the highly technical nature of the product this is far from easy, and the industry finds that it spends an inordinate amount of time and money in investigating customer problems, examining production techniques, measuring output rates and so on, while in the end the order may go to the competition.

Naturally, after the demise of Herbert-Ingersoll there has been a reaction against heavy commitment to production of sophisticated and expensive tools. Cynics are given to pointing to the success of companies like Colchester Lathe, whose principle is to sell general purpose tools offering excellent value for money. Yet they forget that within the same group are the Hydro Machine Tool Company and the Richmond Machine Tool Company manufacturing numerically controlled lathes and drilling machines respectively. And the Sylic Machine Tool Company, which imports the Boehringer range of highly specialised numerically controlled lathes, which can cost anything up to £70,000, is having one of its most successful years, although figures are not yet available.

Most marketing approaches in the industry are based on machine performance, and yet this is not enough to convince customers of the need for re-equipment. Far too few sales approaches are made on the basis of overall economics, taking every factor into account. Yet those companies that are selling most successfully at home and overseas are those which can produce cost analyses showing absolute savings.

Companies looking for a way of convincing the market of the excellence of their equipment could well take a look at the approach used by Sandvik U.K. in marketing its cutting tools. It estimates that the cost of tools represents only about 2.5 per cent of total production costs, yet within this very narrow margin they can demonstrate that by choosing their cutting tools in preference to those of most competitors sub-

stantial savings can be made. Recently, Sandvik produced a detailed analysis of all factors making up the total cost of production, showing how the various costs inter-relate and how cutting tools influence, for example, labour, materials and overheads.

Similar study

Several years ago a similar study on machine tools and the cost of unit production was carried out by a Dutch research organisation, but so far there has been no British company willing to study the performance of its products in this detail. Customers are therefore left with the feeling that they are choosing their equipment on far too little hard information, and the view has been put forward that whenever a large contract is involved the supplier of the machine tools should be prepared to produce a cost-performance analysis for the equipment when used on products similar to those made by the prospective customer.

That machine tool manufacturers should be reluctant to commit themselves to this degree is to be expected. Money is not the only deterrent; far greater is the shortage of men qualified to undertake the task especially when, as now, trained staff is in short supply and staffs are stretched to the limit on work that is given a higher priority.

However one looks at the picture, though, it is difficult to resist the conclusion that manufacturers must become more closely involved in customer problems. Considering the level of expenditure involved in re-tooling, the customer is coming to expect the same degree of consultancy service, analysis of problems and after-sales attention now lavished on users by the computer industry.

Computer men realised many years ago that they weren't in the business of selling machines, but of selling solutions to problems in industry and commerce. Now that Britain is in the EEC it is to be hoped that it is this country's machine tool makers who will accept and act on that premise rather than those from Germany or Italy.

We all need a Трансмиссионный вал

This is a mainshaft. It was turned on a Churchill P5 Profile Turning Lathe. Components like this present the same production problems in Moscow or Macclesfield and production engineers the world over look to companies like Churchill-TI for the most cost-effective, practical solutions.

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The availability of expert guidance

Now that machine tool producers at long last are enjoying better trading conditions than for many years and that the long frost in many machine shops is melting, it is time to look at the possibilities of keeping behind these most welcome trends.

machine or control development and these, not unnaturally, have extolled the virtues of employing the latest and the fastest equipment.

Direct Government intervention in at least two major projects has been tried, but from the large sums poured into lubrication as part of a single highly specialised discipline is demanding the attention of both sides of the industry which has as much to learn from the Industrial Unit of Tribology at Leeds University.

There is no lack of technical guidance and exhortation—

ticularly of the machining centre-type, needs very careful matching to present and future requirements of a user if waste and expensive down-time is to be avoided. Old rule of thumb approaches cannot be used in the case of modern high cost machinery.

Users have had it dinned in their ears for some 15 years or so that they should throw out their old equipment and move to much more sophisticated and highly automated designs. Time and again the sponsoring Ministries have called for case studies to be made by one or other leading company at the forefront of their little benefit can now be seen to derive—none if the original target is considered. Research associations and government laboratories proliferate advice to builders of machine tools and their users, often falling over each other to examine new technologies and recommend them. A totally new group, set up to study problems of wear, friction and some users say too much—but one area has been neglected. This is confidential advice to management which may not have a technical background but yet is faced with the need to make an assessment of performance of new designs using techniques which may be novel to many in the machine shop.

Modern equipment, particularly the Engineering Industry Training Board, possibly because of some of the white elephants left behind by previous official endeavours, has held a series of consultations with management and these have shown up four areas in which a special effort is needed to make the industry and its customers healthy and prosperous.

The Engineering Industry Training Board, possibly because of some of the white elephants left behind by previous official endeavours, has held a series of consultations with management and these have shown up four areas in which a special effort is needed to make the industry and its customers healthy and progressive.

Management should make much more detailed and far-reaching investment appraisals of capital plant than hitherto—and the appropriate research associations, taking a leaf out of the Ship Research Association's book, might well be the people to establish the methodology of such assessments and recruit appropriately trained staff on the management techniques and data processing side.

There is a need for engineers and accountants to obtain a better idea of how each other's disciplines operate and for management to pay greater attention to providing the trained staff and organisation needed to support powerful new equipment. Finally, the EITB says, machine tool builders themselves must become aware of appraisal methods used by customer industries to assess new equipment.

To help all this along ETE has developed an investment appraisal methodology for machine tools operating under numerical control and worked out procedures which should ensure that users will derive maximum benefit from a new investment through correct planning. It is running seminars addressed to management to provide such guidance and giving training recommendations for maintenance staff N/C programmers and operators.

It is not going to be easy to define methods which will help engineers and accountants to understand each other more.

An overall cost saving estimated at more than 40 per cent on the machining of one component was achieved in only a few weeks by the Head-Wrightson Company during a recent industrial application of the PERA plasma-assisted hot machining technique. The workpiece—one of the large to which the technique has so far been applied—was an 18 foot diameter cast steel ring weighing 22 tons and surfaced in part with a weld deposit of stainless steel.

thoroughly and the Board has called on the Institution of Production Engineers and the Institution of Cost and Management Accountants to set up a joint working party which will examine and propose appropriate training procedures. At the same time, the Board is helping manufacturers to set up customer training services.

Meanwhile, a great deal is happening over the whole area of all which needs, if not action by the manufacturer and the user, at least a thorough awareness of what is afoot. Automation of design procedures is

CAD already has a major role in civil engineering and should play far greater part in all the other branches of the industry to make new design more cost-effective. Value engineering takes on a new meaning when powerful analytical tools such as those at CAD Cambridge, NEL East Kilbride, and at SIA, on the letter's vast CDC8600 in London. Manipulation of data and the corresponding representation of structures on a computer-controlled display can save months of work with slide rule and drawing board.

This demands effective preliminary assessment by management.

The way the battle of words was initially joined, one would have expected to find most numerical control installations already replaced by mini-computers. This has not been so, however, and the development path is likely to stretch over a number of years, even though the cost of the "mini" and now the "micro" has fallen far faster than anyone could have anticipated three or four years ago when the topic was first under general

fitting of digital in-programming units. As the use of computer services expands it will even the simplest instructions come within their scope. It is not without reason some of the companies who building a good share of numerical control and gaw-equipment used in Britain foresee that they ultimately may have to offer a complete integrated system or series from the design stage through to the checking of finished product. For the large organisations this could be a number of take-over or

case in point. Computer assisted Design Centre in Cambridge has been quietly setting up a national network which in comparison with the much talked about ARPA multi-computer network in the U.S. has many more useful engineering routines available. Accessible over keyboards in any areas of the country, a number of these routines can be made to yield design details ready for the machine shop, or control tape for a specified machine tool.

Another area worth a closer look is the use of far harder materials and much faster spindle speeds in grinding, honing and other operations where surfaces—particularly of tough, problem materials—are abraded away. Diamond is often the only medium which can deal effectively with some of the new materials aerospace and military users have dreamt up. Again, however, the greater throughput possible with diamond grinders has to be set against higher wheel costs and

discussion.

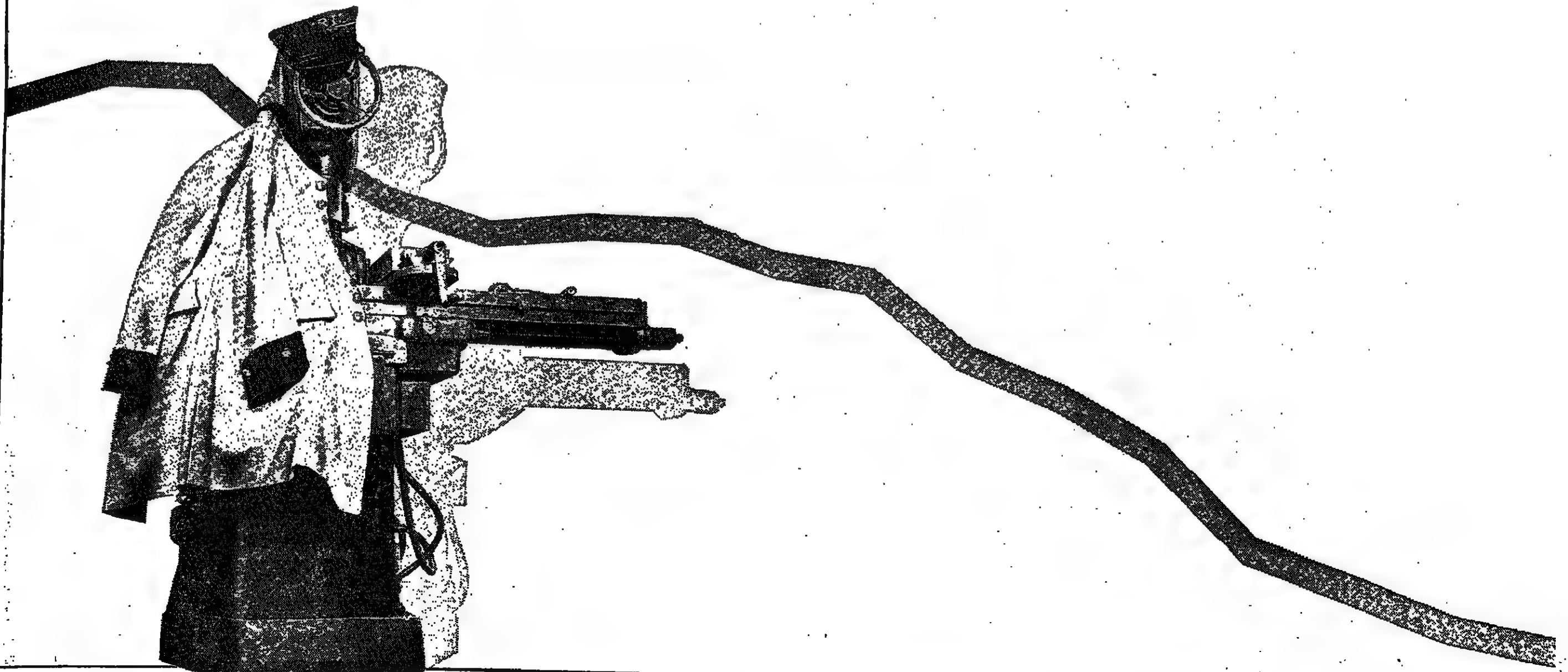
The area is one well worth watching if only because of the versatility of computers once the software side has been developed and the possibility, being explored by General Electric in the U.S., of running machine-tools from a central computer which is simultaneously doing totally different work.

This topic is not totally alien to the needs of the small user, whose throughput could be doubled simply by the retro-

tions and/or understandings with their counterparts in Europe.

It is as well to remember when reflecting on developments and techniques ten years ago Britain was the home of the most sophisticated numerical control run in Europe, but manufacturers failed to follow through a simple down-to-earth equipmenting to users with requirements were an order of magnitude less exacting than those of the aerospace indus-

It is as well to remember when reflecting on developments and techniques that ten years ago Britain was the home of the most sophisticated numerical control route in Europe, but manufacturing failed to follow through: a simple down-to-earth equipment appealing to users whose requirements were an order of magnitude less exacting than those of the aerospace industry.



Old machine tools never die - your business fades away

Fifty-six per cent of the machine tools in British factories are over ten years old. For the past decade Britain's economic growth rate has been well below that of most other major industrial countries. In Western Europe for instance, the majority of machine tools are less than eight years old. If the British people

are not to become "the peasants of Europe", British industry must retool and on an unprecedented scale. There are clear signs that such a programme is under way and is gathering momentum. The 800 Group, knowing that a boom in machine tools had to come, began retooling its plants in 1957.

expand its substantial interests in the machine tool industry. Today, the machine tool division of The 600 Group is the second largest manufacturer of machine tools in Britain and is one of the largest distributors of leading American and Continental models.

Colchester Lathes ❁❁❁ Harrison Lathes ❁ Richmond Milling & Drilling Machines ❁ Sykes' Gear Cutting Machinery ❁ Hydro Machine Tools ❁
Selson Machine Tools ❁ Sykes Machine Tools ❁ Gamet Machine Tool Bearings ❁ Dickson Machine Tool Accessories ❁
Edwards Metalworking Machinery

**A RIBBON
OF STEEL RUNS
THROUGH ALL
THE ACTIVITIES OF
THE 600 GROUP**

600

By ARTHUR SANDLES

Rationing

Competition

Labour News

PETER CARTWRIGHT, MIDLANDS CORRESPONDENT

Cohesion

INTERNATIONAL INDUSTRY REPORT

BY OUR INDUSTRIAL AND FOREIGN STAFF

	PRODUCTION		EXPORTS	
	No. of units (000)	% change on 1972	No. of units (000)	% change on 1972
U.S.	5,418*	+15.4	n.a.	
Japan	2,610	+14.9	721*	+ 6.1
Germany	2,212	+ 5.9	1,293	+ 9.7
France	1,588*	+ 8.0	947*	+ 7.3
U.K.	1,026	- 0.4	356	- 4.6
Italy	848*	-10.6	216*	-15.7

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*The figures marked with an asterisk cover the period January-June. The others refer to January-July.

Building societies 35-year ho

BY HAROLD BOLTER, INDUSTRIAL CORRESPONDENT

the essence of the BBC argument is that there is no need for

The cost

Comedies

BY MARY CAMPBELL

INTERNATIONAL COMPANY NEWS + EURO MARKETS

EUROBONDS

The dollar bond returns

BY MARY CAMPBELL

WITH THE secondary market advantage in being a household name, the dollar bond has been the primary focus of the Euro market. There are five issues currently on the market: the \$500m. convertible for Walt Disney; the \$500m. straight issue for Air France; the \$500m. straight issue for National Westminster Bank; the \$500m. straight issue for the European Investment Bank; and the \$500m. straight issue for the Luxembourg stock exchange. Estimates in the market are that the 8 1/2 per cent coupon being offered by Air France should ensure that it will "go". The clearing banks—give it first class status while conditions have improved since Standard Oil (Indiana)'s 8 1/2 per cent issue in late July.

Of the two other dollar denominated issues, Walt Disney's is thought to be going rather better than Hongkong Land. Walt Disney has a big

French plant for Union Carbide

UNION CARBIDE has said it plans to build a \$30m. graphite electrode plant in Calais. The plant, scheduled for completion in early 1976, will be operated by its subsidiary, Union Carbide France.

The installation, which will produce primarily the large electrodes required for modern high-power electric arc furnaces, will serve the steel industry in Northern Europe, the company said.

Canadian group acquisition discussions

Thomassen en Driver-Verbluff NV has said talks are being held with Polysar of Canada which may result in a complete takeover of the Dutch subsidiary of European Chemicals, the Brussels-based holding company for Continental Can Co.

AUSTRALIAN WEEKLY LIST

Australian \$	Sept. 14	Sept. 7	Australian \$	Sept. 14	Sept.
Advertiser News p'p'l	2.25	2.46	Kiki Int.	0.97	1.00
Ansett Transport	0.78	0.70	N. L.L.	4.50	4.50
Amal. Securities	1.99	1.77	Mauri Bros. & T.	1.26	1.26
Amal. Finance	1.81	2.03	Mayer Nickson	1.17	1.17
Amal. & Randell's	1.35	1.21	Nyx Corporation	1.36	1.36
Amal. Paper M'frs. Co.	1.75	1.90	Olympic Cons.	0.99	0.85
Boral	2.17	3.37	Oversea Corporation	1.65	1.65
Brinsale Iron	1.08	1.51	Peterfield	1.65	1.65
Brown & Blythe	1.36	1.36	Queensland Ins.	2.74	2.75
Carpenter W.R.	2.28	2.07	Queensland Ins.	75.97	83.93
Consolidated Pulpina	1.09	1.35	Road Industries	1.68	1.68
Coal & Allied	6.95	6.18	Saan Brewery	1.68	1.68
Conglomerate	2.50	2.50	T. Corporation	Nil	2.75
Commercial Union	1.17	1.36	Thies	1.48	1.47
Conglomerate Mining	2.50	2.88	Thomas Nat. Trust	1.82	1.82
Crown Bros.	2.07	2.68	Tobias	9.22	9.22
Hardie	2.55	3.25	Torvald	10.65	10.70
David & Wooley	2.55	3.25	Woodside Burnham	1.44	1.44
Brown	1.22	1.21			

Source: *Sydney Herald*.

OFFSHORE AND OVERSEAS FUNDS (p*)**[illegible]

its trade-weighted average in London is \$100-101, and touched \$99-100 on Thursday.
recency since the Washington Bank base rates, Page 25
Agreement of December, 1, ending at 19.04 per cent.,
FOREIGN EXCHANGES

FOREIGN EXCHANGES			
	Sept. 1973	Bank Rate %	Market Rate
New York	75.2	6.00-4.15	6.01
London	75.2	6.00-4.15	6.01
Amsterdam	75.2	6.00-4.15	6.01
Frankfurt	75.2	6.00-4.15	6.01
Paris	75.2	6.00-4.15	6.01
Madrid	75.2	6.00-4.15	6.01
Osaka	75.2	6.00-4.15	6.01
Yokohama	75.2	6.00-4.15	6.01
Tokyo	75.2	6.00-4.15	6.01
Manila	75.2	6.00-4.15	6.01
Seoul	75.2	6.00-4.15	6.01
Bombay	75.2	6.00-4.15	6.01
Calcutta	75.2	6.00-4.15	6.01
Rangoon	75.2	6.00-4.15	6.01
Colombo	75.2	6.00-4.15	6.01
Singapore	75.2	6.00-4.15	6.01
Malaya	75.2	6.00-4.15	6.01
Brunei	75.2	6.00-4.15	6.01
Indonesia	75.2	6.00-4.15	6.01
Philippines	75.2	6.00-4.15	6.01
Thailand	75.2	6.00-4.15	6.01
Sri Lanka	75.2	6.00-4.15	6.01
Maldives	75.2	6.00-4.15	6.01
Bhutan	75.2	6.00-4.15	6.01
Nepal	75.2	6.00-4.15	6.01
Bangladesh	75.2	6.00-4.15	6.01
Pakistan	75.2	6.00-4.15	6.01
India	75.2	6.00-4.15	6.01
China	75.2	6.00-4.15	6.01
Taiwan	75.2	6.00-4.15	6.01
Hong Kong	75.2	6.00-4.15	6.01
Macau	75.2	6.00-4.15	6.01
Guam	75.2	6.00-4.15	6.01
Philippines	75.2	6.00-4.15	6.01
Malaysia	75.2	6.00-4.15	6.01
Singapore	75.2	6.00-4.15	6.01
Brunei	75.2	6.00-4.15	6.01
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Pakistan	75.2	6.00-4.15	6.01
India	75.2	6.00-4.15	6.01
China	75.2	6.00-4.15	6.01
Taiwan	75.2	6.00-4.15	6.01
Hong Kong	75.2	6.00-4.15	6.01
Macau	75.2	6.00-4.15	6.01
Guam	75.2	6.00-4.15	6.01
Philippines	75.2	6.00-4.15	6.01
Malaysia	75.2	6.00-4.15	6.01
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Sri Lanka	75.2	6.00-4.15	6.01
Maldives	75.2	6.00-4.15	6.01
Bhutan	75.2	6.00-4.1	

the Dutch guilder, official upation of which by 5 per cent. announced on Saturday.

<p>the following level, against the major unit (previous day's rates in brackets): 1.0513 to DM1 (1.0625); 2.6504 to £1 (2.6385); 0.6200 to franc (0.6211); French FF (0.6211); 1.7153 to Swiss Fr. (1.7182); and 6.4140 to 12 (6.4330).</p> <p>Gold fell \$5 an ounce on balance</p>	<p>OTHER MARKET RATES</p> <p>Argentina on 34 1/2 % discount 35-42 Australia 1.0500-1.0500 1.0500 Brazil on 14 1/2 % discount 14-15 Canada 1.0500-1.0500 1.0500 France 1.0500-1.0500 1.0500 Germany 1.0500-1.0500 1.0500 Italy 1.0500-1.0500 1.0500 Japan 1.0500-1.0500 1.0500 Netherlands 1.0500-1.0500 1.0500 Portugal 1.0500-1.0500 1.0500 Spain 1.0500-1.0500 1.0500 Sweden 1.0500-1.0500 1.0500 Switzerland 1.0500-1.0500 1.0500 U.S. 1.0500-1.0500 1.0500</p>
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1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

A resolution said such activity was "not appropriate to the pur-

	Yield %		Yield %
Lifesaver Insurance Co.		Farmers Insurance Group	

Life & Equity ASSURANCE
 Yorkshire House, Colston Ave., Bristol
 NS1 4XR 1972 1972s

Wool. Inv. Aug 242.0 44.5i
Wool. Bn. Aug 2.58.5 60.0i

Royal Assurance Group
 1 North John St Liverpool, 051-236 0022
 vRoyalShieldFnd 102.2 108.1

Save and Prosper Group
 4 St. St. Helen's London, 0-25 998 1966

[illegible]

Del. Reg. No. 103.0 | ~~www~~ | ~~1~~ | ~~Not available~~

A copy of this Offer for Sale, having attached thereto the documents specified below, has been delivered to the Registrar of Companies for registration. This document contains particulars given in compliance with the regulations of the Council of The Stock Exchange for the purpose of giving information to the public with regard to James Austin Steel Holdings Limited. The Directors collectively and individually accept full responsibility for the accuracy of the information given and confirm, having made all reasonable enquiries, that to the best of their knowledge and belief there are no other facts the omission of which would make any statement herein misleading. Application has been made to the Council of The Stock Exchange for the whole of the issued share capital of James Austin Steel Holdings Limited to be admitted to the Official List. The Application Lists for the ordinary shares now offered for sale will open at 10 a.m. on Thursday, 20th September, 1973 and will close on the same day.

James Austin Steel Holdings Limited

Incorporated under the Companies Act 1948 as amended, Registered in England No. 1108555.

Steel stockholders and structural engineers

SHARE CAPITAL

Authorized £1,000,000 in 4,000,000 ordinary shares of 25p each Issued and to be issued fully paid £750,000

On 24th August, 1973 except for inter-company transactions neither James Austin Steel Holdings Limited nor any of its subsequently acquired subsidiaries have outstanding any loan capital, mortgages or charges, borrowings or indebtedness in the nature of borrowing, including bank overdrafts, liabilities under acceptances or acceptance credits or other similar indebtedness, hire purchase commitments, guarantees or other material contingent liabilities.

Rowe, Swann & Co.

offer for sale

1,075,000 ordinary shares of 25p each at 67p per share

Payable in full on application The ordinary shares now offered for sale rank in full for all dividends hereafter declared or paid on the ordinary share capital of James Austin Steel Holdings Limited.

Directors

ARTHUR YELVERTON WILSON,
Orchard House, Chevet Lane, Sandal, Wakefield, Yorkshire.
(Chairman and Managing Director)

EDWARD GEOFFREY TENNANT FIRTH,
Hob Garth, 4A, Crowleas Road, Mirfield, Yorkshire.
LAWRENCE VICTOR HAMPSHIRE, B.Com., F.C.I.S.,
Highcroft, Valley Road, Thornhill, Dewsbury, Yorkshire.
(Financial Director and Secretary)

Registered Office

Thornhill Steel Works, Dewsbury, Yorkshire, WF12 9EH.

Brokers

ROWE, SWANN & CO.,
Augustine House, Austin Friars, London EC2N 2HD,
and The Stock Exchange.

Bankers

NATIONAL WESTMINSTER BANK LIMITED
2, Northgate, Dewsbury, Yorkshire, WF13 1EA.

PARTICULARS OF THE COMPANY AND ITS SUBSIDIARIES

History and Business
James Austin Steel Holdings Limited ("the Company") was incorporated in England on 30th March, 1973 as a private company and was converted into a public company on 13th September, 1973 when it acquired the whole of the issued share capital of James Austin & Sons (Dewsbury) Limited ("Austin"). Austin was incorporated in 1923 to carry on the business of iron and steel stockholding which had evolved from a firm of millwrights founded in the middle of the 18th century. Austin moved to its present site in Dewsbury in 1927 and in 1936 began to fabricate structural steelwork. In 1948 Austin acquired the whole of the issued share capital of A. J. Riley & Son Limited ("Riley"), an old-established firm of specialist engineers based in Batley, manufacturing tanks and pressure vessels for the process plant industry. The Company, Austin and Riley are together referred to as "the Group".

Austin

The business of Austin comprises two divisions, steel stockholding and structural engineering, operating from adjacent premises in Dewsbury. The main supplier of steel in British Steel Corporation and Austin is geographically well situated in relation to the rolling mills which provide its main supplies. Purchases are also made from other suppliers in the United Kingdom and abroad. Each division is responsible for its own purchases but on occasions supplies and processing services are obtained on an inter-divisional basis.

The steel stockholding division operates from a modern purpose built warehouse and specialises in the heavier types of black steel, chiefly heavy and medium plates and engineering, structural and shipbuilding sections. Its principal customers are the structural and general engineering, shipbuilding and ship repairing industries and smaller stockholders. Austin, which has facilities inter alia for galvanizing, profiling and burning, sawing and drilling, is one of the leading specialist suppliers to the shipbuilding and engineering industries of steel conforming to the requirements of Lloyd's and other inspecting authorities in the United Kingdom and overseas. Home and overseas sales are effected by the sales organisation at Dewsbury with the support of a small team of representatives. Austin's own fleet of vehicles delivers direct to customers and is supplemented when necessary by hired transport. In the year ended 31st March, 1973 there were over 1,100 customers of the stockholding division, none of whom accounted for more than 5 per cent. of the division's turnover.

The structural engineering division undertakes the detailed design and fabrication of structural steel for delivery at home and abroad and, in the United Kingdom, provides erection on site if required. There is a specialist production line for the fabrication of cast-steel beams for use by this division and for sale to the trade. Contracts are usually completed within twelve months and have included structural steelwork for most types of commercial, industrial, and civil engineering purposes. Austin was one of the sub-contractors supplying steelwork for the British Steel Corporation's Anchor plant at Scunthorpe. Contracts for this division are generally obtained through architects, consulting engineers and main contractors, with whom Austin has enjoyed good relations and continuing business for many years. A separate sales office is maintained in London which is principally concerned with the business of the structural department. In the year ended 31st March, 1973 this division supplied over 130 customers, none of whom accounted for more than 12 per cent. of its turnover.

Riley

Riley's offices and works are situated in Batley, some five miles from Austin's works in Dewsbury. It designs and constructs plant such as pressure vessels, storage tanks, heat exchangers and fractionating and other columns for a wide range of customers in the chemical, petroleum, gas, water, brewing, plastics and textile industries. Although it is not dependent upon any one customer, a single contract may account for a substantial proportion of the turnover in any given financial year. The principal materials used are mild, stainless, nickel and clad steels, aluminium and other alloys, which are obtained from various sources in the United Kingdom and abroad.

Premises

Austin owns a freehold site of approximately 23 acres some two miles from the centre of Dewsbury. The works, yards and associated areas used by the stockholding and structural engineering divisions occupy approximately 18 acres. The site also houses the Group's head office and Austin's sales and administrative offices, providing 15,000 square feet of accommodation.

The steel stockholding warehouse, designed specifically for the division, was built in 1966. It has since been extended by some 20,000 square feet to a covered area of approximately 100,000 square feet, the latest addition of approximately 12,000 square feet having been completed in January 1973. The premises occupied by the structural engineering division were built when Austin originally moved to the site in 1927 and a number of extensions have since been added. The buildings, which have been kept in good repair, now have a covered area of approximately 124,000 square feet and there is also an open steel stock yard of approximately 22,000 square feet.

Riley's office and main works consist of two freehold premises totalling some 46,000 square feet in Batley. Riley owns additional freehold premises at Saville Works in Batley which are temporarily not in use.

The Group's premises were valued on 25th May, 1973 on a going concern basis by Edisons, Chartered Surveyors, at £547,500 which is some £275,000 greater than the amount shown in the statement of the Group's net assets at 31st March, 1973 set out in the Accounts Report below. The Directors have no present intention of incorporating this valuation in the books of account.

Further details of the premises owned by the Group are shown under Statutory and General Information below.

Management and Employees

Mr. A. V. Wilson, aged 55 years, who joined Austin in 1946, is Chairman and Managing Director of all the companies in the Group. He also has particular responsibility for the structural engineering division of Austin. Mr. E. G. T. Firth, aged 62 years, joined Austin in 1930 and is the director in charge of the steel stockholding division. Mr. L. V. Hampshire, aged 59 years, joined Austin in 1944 and is Financial Director and Secretary of the Company. Mr. Firth and Mr. Hampshire are also directors of Austin and Riley. Each director has entered into a service agreement with the Company, details of which are set out under Statutory and General Information below.

Mr. D. Charlton, M.I.Struct.E., aged 36 years, has recently joined Austin and been appointed to the Board of that company. He is now responsible with Mr. Wilson for the structural engineering division, having had some twenty years experience in that business. It is intended that Mr. Charlton will take over full responsibility for the structural engineering division from Mr. Wilson. Mr. R. T. Firth, B.Com., aged 30 years, export manager and assistant commercial manager of the stockholding division of Austin where he has been employed for eight years, has also been appointed to the Board of Austin. Mr. J. Davis, aged 67 years, is a director of Riley and has been its general manager for 20 years.

The majority of the Group's experienced team of senior and middle management has over 15 years of service. The Group has over 300 employees with a full time training officer responsible for supervising the training of employees when necessary. Labour relations are very good and no difficulty has been experienced in recruiting additional labour when required. Both Austin and Riley operate contributory pension and life assurance schemes for staff and non-contributory schemes for work employees.

Working Capital

The Directors are of the opinion that the Group has adequate working capital for its present requirements.

Turnover

External turnover of the three operating divisions of the Group and the respective proportions of the Group total for each of the five years ended 31st March, 1973 were as follows:—

	Steel	Structural	Riley	Total
	£'000	£'000	£'000	£'000
1969	1,715	67	648	2,430
1970	3,258	76	730	4,064
1971	3,386	72	905	4,363
1972	2,208	63	973	3,244
1973	2,986	72	836	3,894

In the year ended 31st March, 1973, 11.5% by value of the Group's turnover was exported, of which nearly half went to the countries of the European Economic Community and the balance mainly to Scandinavia and the Middle East.

Group turnover has expanded over the last five years to record levels, the average for this period being nearly double that of the previous five years. This expansion reflects the benefits of the new warehouse built in 1966 and the increasing amount in tonnage and value terms of steel handled by Austin. Turnover in individual years is largely determined by the general level of economic activity, in particular the level of capital expenditure in the engineering and allied industries. The steel stockholding division, dealing mainly in the heavier types of steel supplied to the capital goods industries, reacts more quickly to changes in demand than the structural engineering division or Riley. Accordingly, the downturn in demand experienced during the financial year ended 31st March, 1972 had a more rapid effect on the steel stockholding division than on the structural engineering division where due to the low level of industrial investment initiated in that year and to the effect of steel shortages and the postponement of planned investment projects as a result of the Government's counter-inflation proposals, turnover declined in the following year. The curtailment of investment programmes, particularly the chemical and allied industries, was primarily responsible for the fall in Riley's turnover during the two years ended 31st March, 1973.

Trading conditions for the steel stockholding division began to improve in the second half of 1972, with demand accelerating rapidly in the final quarter of the year ended 31st March, 1973. Similarly an improvement was felt in the structural engineering division by the beginning of the current financial year, although Riley is only now experiencing a revival of interest.

Profits, Dividends and Prospects

As shown by the Accounts Report below, Group profits before taxation, which have tended to follow variations in turnover, expanded to an historical peak of £451,000 in the year ended 31st March, 1971. This figure was some three times greater than the previous peak achieved in the year ended 31st March, 1968 and largely reflected the increases in turnover and tonnages handled by the steel stockholding division. Profits in each of the last four financial years have also been affected by one or more increases in the price of steel, giving rise to favourable realisations of stocks on hand, particularly in the two years ended 31st March, 1972. This factor apart, gross profit margins of the stockholding division improved in the year ended 31st March, 1973 as a result of increased demand, having remained virtually unchanged over the previous four years. The profits of the structural engineering division rose to a peak in the year ended 31st March, 1972 and were reduced sharply in the following year because of the competitive conditions then prevailing in the industry.

During the first four months of the current financial year, turnover of the steel stockholding division was more than double that of the corresponding period of the previous year, but it is forecast at a reduced level in the remaining eight months because supplies of steel are presently not sufficient to meet demand. Nevertheless, with further increases in the price of steel which became effective at the end of April 1973, the Directors expect profits from steel stockholding to reach a record level in the year ending 31st March, 1974. Profits of the structural engineering division in the current financial year will also be affected to some extent by steel supply problems and the completion of orders accepted during the previous year at lower margins, but the Directors expect that the results of this division will show an improvement over the previous year. Riley is still experiencing a shortage of demand for its products and is likely to make little contribution to profits in the current financial year.

Having regard to the substantial increase in turnover in the first four months of the current financial year, contracts on hand for structural and other engineering work and forecasts of turnover for the remainder of the year and on the basis of the assumptions set out under the heading Profit Forecast below, the Directors expect that, subject to unforeseen circumstances, the Group profits before taxation for the year ending 31st March, 1974 will be not less than £500,000. A further increase in the price of steel is expected shortly and there could be an additional benefit to profits in the current year if it were to come into effect before 31st March, 1974.

On the basis of profits before taxation of £500,000 the Directors expect to pay in respect of the year ending 31st March, 1974 dividends totalling 3.5p per share (which with the related tax credit of 3.75p of the dividend paid would be equivalent to 5.0p per share gross) payable as an interim dividend of 1.5p per share in March, 1974 and a final dividend of 2.0p per share in September, 1974.

On this basis and assuming corporation tax at 50 per cent. the appropriation of such profits would be as follows:—

	£
Profits before taxation	500,000
Corporation tax	250,000
Profits after taxation	250,000
Ordinary dividends	105,000
Retained profits	145,000

On this basis at the Offer for Sale price of 67p per share the nil and net price earnings multiple would be 8.04, and the net dividend of 3.5p per share, which would be covered 2.4 times by profits after taxation, together with the associated tax credit would result in a gross dividend yield of 7.5 per cent.

Over the years, steel stockholders have played an increasingly important role in the distribution of steel, particularly in some of the main types supplied by Austin. Located close to its main supplying mills, Austin is also benefitting from the recent introduction of a base point pricing system for the majority of its supplies. Having the cash resources to finance expansion, the premises with capacity to handle increased business and the land available for development, the Group is well placed for the future.

ACCOUNTANTS' REPORT

The following is a copy of a joint report by the auditors of the Company, Robson, Rhodes & Co. and the Reporting Accountants, Price Waterhouse & Co.:

To The Directors,
James Austin Steel Holdings Limited
and to
Rowe, Swann & Co.
Gentlemen,

1. We report that James Austin Steel Holdings Limited ("the Company") was incorporated on 30th March, 1973 with an issued capital of £2 and has not yet made up any accounts or paid any dividends. On 13th September, 1973 the Company acquired, mainly in exchange for shares, the whole of the issued capital of James Austin & Sons (Dewsbury) Limited and we report below on the accounts of that company and its subsidiaries.

2. We have examined the books and accounts of James Austin & Sons (Dewsbury) Limited ("Austin") and its subsidiaries for the five years ended 31st March, 1973. Austin and its subsidiaries are collectively referred to in this report as "the Group".

Accounting Policies

3. The principal accounting policies presently in use in the preparation of the Group's accounts, which have been adopted for the purposes of this report, are as stated below.

(a) Turnover

Turnover represents the invoice value of goods despatched to external customers after deducting allowances, trade discounts and returns.

(b) Depreciation

Provisions for depreciation are calculated on a straight line basis by reference to the cost of assets over the following periods:
Buildings 40 years
Plant, equipment and vehicles Periods ranging from 5 to 20 years depending on the anticipated useful lives.

(c) Stocks and work in progress

Stocks of steel and other materials are valued at the lower of cost and net realisable value. Work in progress is valued at cost, which includes an appropriate proportion of overheads together with, for structural engineering contracts, an addition of a proportion of the profit expected to be earned on each contract. Provisions are made for all known or anticipated losses.

(d) Deferred taxation

Amounts are set aside for deferred taxation representing the effect of corporation tax (at the relevant annual rate) deferred by capital allowances, after taking account of unabsorbed investment grants, and of items allocated for taxation purposes to periods other than the current accounting period.

(e) Investment grants

Investment grants have been credited to an equalisation account on receipt and are being released to profit and loss account by ten equal annual instalments.

Turnover, Profits and Dividends

4. At the time of their examination, the records supporting stock quantities and valuations at 31st March, 1968 were no longer available and accordingly Price Waterhouse & Co. are unable to confirm the net assets at that date and the profits for the year ended 31st March, 1968. However, Robson, Rhodes & Co. were able to examine these records at the time of their audit and confirm that the stocks and work in progress at 31st March, 1968 were properly ascertained. With this reservation by Price Waterhouse & Co., the turnover, profits, dividends and retained profits of the Group for the five years ended 31st March, 1973, based on the audited accounts, and after making such adjustments as we consider appropriate, were as follows:

	1968	1969	1970	1971	1972	1973
Turnover	£'000	£'000	£'000	£'000	£'000	£'000
Cost of sales	2,681	4,208	4,738	3,482	4,894	2,486
Depreciation	3,328	4,278	2,142	2,786		

	28	37	34	38	46
(£)	(£)	(£)	(£)	(£)	(£)
Interest receivable	88	378	481	383	387
Profits before taxation	88	378	481	383	387
Taxation	39	188	180	143	140

	47	212	271	218	227
(£)	(£)	(£)	(£)	(£)	(£)
Net profits after taxation	8	190	301	240	247
Dividends on preference shares (gross)	5	3	2	3	8

	44	288	288	207	224
(£)	(£)	(£)	(£)	(£)	(£)
Profits attributable to ordinary shareholders	16	211	211	211	211
Dividends on ordinary shares (see below)	16	211	211	211	211

	28	188	243	182	288
(£)	(£)	(£)	(£)	(£)	(£)
Dividends on ordinary shares (see below)	16	211	211	211	211

	28	188	243	182	288
(£)	(£)	(£)	(£)	(£)	(£)
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Dividends on ordinary shares (see below)	16	211	211	211	211

Receiving Bankers
NATIONAL WESTMINSTER BANK LIMITED
New Issues Department, P.O. Box No. 79,
Drapers Gardens, 12, Throgmorton Avenue, London EC2P 2BD.

Solicitors to the Company
WATTS & SON,
Church Street, Dewsbury, Yorkshire, WF13 1JX.

Solicitors to the Offer
ASHURST, MORRIS, CRISP & CO.,
17, Throgmorton Avenue, London EC2N 2DD.

Auditors
ROBSON, RHODES & CO. (Chartered Accountants),
Aquis House, 12, Greek Street, Leeds LS1 1HR.

Reporting Accountants
PRICE WATERHOUSE & CO. (Chartered Accountants),
Norwich Union House, 73/79, King Street, Manchester M2 4WS

Registrars and Transfer Office
ROBSON, RHODES & CO.,
24/26, Moorgate, London EC2R 6EA

	Austin £'000	The Group £'000
Stocks and work in progress were as follows:	801	91

	Austin £'000	The Group £'000
Work in progress	192	281
Less: Cash received on account	41	8
	151	20

APPOINTMENTS

APPLICATION FORM

The Application List will open at 10 a.m. on Thursday, 20th September, 1973, and will close on the same day.

JAMES AUSTIN STEEL HOLDINGS LIMITED

Incorporated under the Companies Act 1948 to 1967 Registered in England No. 1102523.

Offer for sale by Rowe, Swann & Co. of 1,075,000 ordinary shares of 28p each at 67p per share payable in full on application.

* Applications must be for a minimum of 200 shares or in the following multiples:—
Up to 2,000 shares, in multiples of 200 shares;
Over 2,000 and up to 10,000 shares, in multiples of 500 shares;
Over 10,000 and up to 20,000 shares, in multiples of 1,000 shares;
Over 20,000 shares, in multiples of 5,000 shares.
For specimen amounts payable see box on right.

Number of shares applied for*	Amount of cheque enclosed at 67p per share	Specimen amounts payable on application	
	£	Shares	Shares
		200	£134
		400	£268
		600	£402
		800	£536
		1,000	£670
		1,200	£804
		10,000	£6,700

TO: ROWE, SWANN & CO.

Gentlemen,
I/We enclose a cheque payable to National Westminster Bank Limited for the above-mentioned sum, being the full amount payable on application for the stated number of ordinary shares of 28p each at 67p per share, and I/we hereby apply for that number of shares. I/We agree to accept the same or any lesser number in respect of which this application may be accepted upon the terms of your Offer for Sale dated 13th September, 1973, and subject to the Memorandum and Articles of Association of the Company.
I/We hereby request you to send me/us a Letter of Acceptance for the number of shares in respect of which this application is accepted, together with a cheque, if applicable, for any amount overpaid by us at my/our risk to the address first given below. I/We hereby authorise and request that you procure my/our securities to be added to the Register of Members of the Company in respect of any shares so allocated and not duly received by me/us.
I/We understand that due completion and delivery of this Application Form accompanied by a cheque will constitute an undertaking that the cheque will be honoured on first presentation. In the event of any breach of this undertaking, Rowe, Swann & Co. may cancel any allocation to me/us notwithstanding that a Letter of Acceptance may have been issued.
I/We acknowledge that you may accept or reject any application in whole or in part, may present all cheques for payment on receipt and may retain cheques for a period of time without the necessity of applicants' consent.
I/We declare that I am/we are not resident outside the Scheduled Territories and are/are not applying for the above-mentioned shares as the beneficial owner of any securities there.
N.B. If this declaration cannot be made, it must be deleted and reference must be made to an Authorized Depositary or an Approved Agent in the Republic of Ireland through whom this form must be lodged.

Signature _____ **Dated** _____ **1973**

Surname and Designation (Mr., Mrs., Miss or Title)

Christian Name(s) (in full)

Address (in full)

In the case of joint applicants all must sign and in the case of a corporation this form must be completed under hand by an authorised official whose designation must be stated.

For use by joint applicants

2 Signatures _____ **3** _____

Surname and Designation (Mr., Mrs., Miss or Title)

Christian Name(s) (in full)

Address (in full)

Instructions

1. This form should be completed and lodged with National Westminster Bank Limited, Newington Green, P.O. Box 73, Church Gardens, 12 Thompsons Row, London, EC2P 2BD, together with a remittance for the full amount payable on application so as to reach them not later than 10 a.m. on 20th September, 1973.
2. A separate cheque, which must be drawn on a bank or branch thereof in England, Scotland, or Wales, made payable to "National Westminster Bank Limited" and crossed "Not Negotiable" must accompany each application form.
3. Receipt will be issued for the amount paid on completion but sale and underpayment will be forwarded through the bank at the rate of the application's cheque by a fully paid non-interest-bearing Letter of Acceptance (together with, if applicable, a cheque for any amount overpaid) to the holder of the application form.
4. The Scheduled Territories at present comprise the United Kingdom, the Channel Islands, the Isle of Man, the Republic of Ireland and Gibraltar. Authorised Depositaries named in the Bank of England's Notice C.O.1 and Central Banks and Stockbrokers in the Republic of Ireland are the Bank of Ireland, the Central Bank and the Isle of Man. An Approved Agent in the Republic of Ireland is the Bank of Ireland.

THE JOBS COLUMN

To lead settlements through shake-up

BY MICHAEL DIXON, EDUCATION CORRESPONDENT

IF YOU'RE in the securities business you will probably have heard of P. H. Smith, head of settlements at the Stock Exchange in London. His approaching retirement will almost coincide with the start in January of the five-year programme in which the SE intends to bring its settlements and other services to a highly developed level, with much harnessing of computer power.

So whoever succeeds Mr. Smith will be "managing change" as part of the job, which carries responsibility for all the settlement services. At least 500 people and £2m-plus worth of computer equipment will be in the newcomer's charge.

Responsibility is to Michael Bennett, managing director of the Stock Exchange's Directorate of Information Systems and Settlements (69 Wilson Street, London, E.C.2)—he will be on holiday in Greece until next week. The job title is general manager, settlements.

One need is experience of managing a large organisation, including control of a computer set-up. The other prime need is personal standing in the securities business.

People in the banking world—say—might have more of the first than the second. People in Stock Exchange member firms might be situated the other way

round. Both, however, would be considered as candidates. Age about 40-50.

Salary at least £10,000. Non-contributory pension. Four to five weeks' holidays.

Two high wires in Bristol

Next come a couple of jobs with the South Western Electricity Board in Bristol. Both are at chief officer level, reporting to the chairman Glyn England.

The first is entitled chief accountant, and heads financial operations throughout the SWEB's area. In the chief's domain are a 40-staff finance department at Bristol dealing with budgeting, management accounting and the like, and a 400-staff central accounting office at Plymouth dealing with payments, receipts, salaries, computer work and so on.

Responsibilities also include advising the finance committee which authorises financial action, and developing systems.

Candidates must be accountants, preferably with a degree as well, who have had management responsibility for computer-connected financial operations in a big concern. The title of the second job is

secretary, but the responsibilities cover far more than Board proceedings and advice on legal matters. In fact, the newcomer will act as head of administration including all aspects of personnel work, land and buildings, public relations, and head office services. Staff number about 60.

Essentials are a successful record on the administration side of a large complex organisation, and appropriate degree or professional qualification.

The preferred age for both jobs is 40s, but older people with the right qualifications are not ruled out.

Salary for both is negotiable between £7,000 and £9,000. Car. Contributory pension. Help with removal. Four weeks' holiday. Applications to George Barker-Benfield of MSL (17, Stratton St., London W1X 6DB).

Management courses chief

Industrial and Commercial Techniques wants a managing director for its London-based external training division, which stages short management-type courses by American and European countries including

Holland, Italy, Germany and Scandinavia.

Alan Berry, chairman of the Venida Investments subsidiary (15 Arthur Street, London, EC4R 9BS) specifies success in running a business operation, sound knowledge of the "management science" field, and a keen eye for new, marketable developments. Age 40-plus.

Salary £5,000 upwards, share of equity and profits in view. car, etc. Business prospects "look very good."

Sotheby's subsidiary

Sotheby's wants a proven business man to join its subsidiary, James Bourlet and Sons, and take over when managing director William Ball retires in 1974.

The newcomer will have to expand the business from its base of expertise in packing and shipping objects of fine art, and making picture frames.

Knowledge of these skills is desired, but skill in import and export procedures is more important. "You have to deliver goods in time for sale deadlines in all sorts of countries," says Michael Ritchie (33-35 New Bond Street, London W1A 2AA). Salary £5,000 or more. Rest negotiable.

MANAGER

Banking

Expanding City-based private bank seeks a senior banker with sound technical background to fill a new appointment as Manager, Administration. He will answer directly to the Chief Executive and will be responsible to him for the efficient management and organisation of the banking operations.

Candidates should be qualified and be between 40 and 57 years of age. They will possess sound experience in all aspects of banking, preferably with a joint stock bank or with a U.K. office of an overseas bank.

The small staff of the bank are young and energetic and the successful candidate will have qualities of sound leadership and good man management.

Knowledge of computer accounting will be an advantage. The initial salary will be not less than £5,000 per annum and while there is no upper limit will be dependent on experience and ability. Usual fringe benefits.

Write in strict confidence with full details of career to date to Box T.2605, Financial Times, 10, Cannon Street, EC4R 4BY.

COMMERCIAL SYSTEMS

CONSULTANT

LONDON

c£4,000

We are an established London Computer software house. There is a vacancy for an experienced consultant to take charge of and further the design of all our commercial systems.

The candidate we are looking for should have a degree and/or Accountancy qualification and wide experience of computer based management systems.

Salary will be negotiated in the region of £4,000 p.a. plus fringe benefits. Any relocation expenses reimbursed. Please write with curriculum vitae to:

The Managing Director
Computer Research and Development
12/15 Dartmouth Street
London SW1H 9EL

Secretary

Association of
Certified Accountants

The Secretary is effectively Chief Executive of the Association which is the second largest professional body of accountants in the United Kingdom and is growing rapidly. As the right-hand man of the President and Council, the Secretary represents the Association in top level contacts at home and abroad and directs a team of senior colleagues handling the varied aspects of the Association's affairs, including membership, education, finance, administration, technical research and public relations.

Applications are invited from experienced executives who, ideally, will already have held a similar position in another professional body or organisation of similar status. Candidates should hold a degree and/or an appropriate professional qualification and will probably be in their 40s. High personal attributes are essential.

Starting salary negotiable above £7,000. Pleasant central London location. Candidates must be prepared for a certain amount of overseas travel.

Please apply in the strictest confidence quoting reference number 1439 to Clive & Stokes, 14 Bolton Street, London W1Y 6JL.

Clive & Stokes

Appointments & Personnel Consultants

Experienced Foreign
Exchange Dealer

required by London Branch of Leading Continents Bank. Applicant should be aged 28-35 with thorough knowledge of all aspects of the market. Salary negotiable and competitive with usual fringe benefits. All applications will be treated in strictest confidence and should be addressed to Box T.2631, Financial Times, 10, Cannon Street EC4R 4BY.

APPOINTMENTS

MANAGING DIRECTOR

Required by well established and expanding organisation in the City, specialising in the presentation of courses and seminars in a wide range of industrial and commercial techniques. These are held in a number of European centres as well as in the U.K.

The appointee must be a first class administrator and be in close touch with developments in management techniques. He must be able to originate programmes and find suitable lecturers.

Starting salary will be at least £5,000 p.a., whilst equity participation and/or profit sharing are possible. Additional benefits include a car and generous pension and life assurance arrangements.

Reply in writing to:- A. BERRY, F.C.A.

VENIDA INVESTMENTS LTD., 15, ARTHUR STREET, LONDON, EC4R 9BS.

DIRECTOR DESIGNATE
FOREIGN BUSINESS

£8,000

Top man, preferably with Clearing Bank experience, sought by growing Merchant Bank to control and expand Foreign Business. Age 40-52. Reply initially to D. J. Fisher, Managing Director, COVENT GARDEN APPOINTMENTS, 52 Fleet Street, London, EC4A 3DF. 01-353 1164/4314.

CITY
MERCHANT BANK

We are looking for an experienced

TRADER

in

SILVER AND

PRECIOUS METALS

Established business dealing, arbitrage and client account. Attractive terms and state of funds for right applicant. Replies to Box No. T.2680, Financial Times, 10, Cannon Street, EC4R 4BY.

ACCOUNTANTS and Qualified and Partly Qualified City Jobs from £2,000 p.a. to £6,000 p.a. at City Centre Staff Bureau, 41 Bow Lane, London EC4A 3DF. Telephone 256-5843.

APPOINTMENTS
WANTEDHIGHLY QUALIFIED
SENIOR EXECUTIVE

with wide UK experience in far reaching chemical and economic areas seeks demanding position in business development, Economic Board and other top level executive responsibilities. Wide executive responsibilities including business development and market surveys in several countries, overseas technical and economic analysis, and technical advice, especially in Europe (UK, USA and Japan included). Write Box T.2626, Financial Times, 10, Cannon Street, EC4R 4BY.

COMPANY
NOTICES

CENTRAL SOUTH AFRICAN LANDS & MINES LIMITED

(Incorporated with limited liability in the Republic of South Africa)

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AFRICAN FINANCIAL CORPORATION, Limited, London Secretaries, per: A. T. Ticker.

London Office: 51, Cannon Street, EC4R 3JT.

40, Southampton Row, WC1R 4EJ.

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BG SECURITIES LIMITED

(continued)

NOTES ON COMPANY AND GROUP BALANCE SHEETS AT 31ST DECEMBER, 1972

- Stocks**
Stocks have been consistently valued at the lower of cost and net realisable value.
- Quoted shares**
The quoted shares included in current assets have a market value of R41,895.
- Bank overdrafts**
Bank overdrafts of subsidiaries are secured to the extent of R172,477 by the pledging of certain bills receivable which are included in debtors.
- Investments**

	Company	Group
Unquoted at cost less amounts written off	—	2,000
Quoted at cost	600	3,141
	600	5,141
Market value of quoted investments	R690	R3,231

In the opinion of the directors the unquoted investments are worth at least the value stated in the Balance Sheet.
- Subsidiaries**
The investment in subsidiaries is as follows:—

	R'000
Shares at cost	5,880
Amounts due from subsidiaries	6,889
	298
	6,591

Amounts due to subsidiaries

The following are the Company's subsidiaries all of which are wholly owned and incorporated in the Republic of South Africa:

Name	Incorporation date	Nature of business	Issued capital	Date company became subsidiary
1. BG Industrial Holdings (Pty) Limited	26th October, 1972	Investment holding company	R2	26th October, 1972
2. BG Portfolio (Pty) Limited	17th October, 1972	Share dealing company	R2	17th October, 1972
3. BG Transactions (Pty) Limited	24th October, 1972	Share dealing company	R2	24th October, 1972
4. BG Management Services (Pty) Limited	17th October, 1972	Financial management company	R2	17th October, 1972
5. BG Nominees (Pty) Limited	17th October, 1972	Investment nominees	R2	17th October, 1972
6. BG Equities (Pty) Limited	10th August, 1972	Share dealing company	R2	10th August, 1972
7. Bagshaw Gibaud (Footwear) Limited	28th August, 1971	Manufacturers of footwear	R388,000	3rd January, 1947
8. Bagshaw Gibaud & Company Limited	8th March, 1911	Leather tannery	£42	3rd January, 1947
9. Cymot Holdings Limited	10th August, 1922	Industrial holding company	R182,000	1st January, 1972
(a) Cymot Limited	18th June, 1971	Wholesale distributors of motor spares and accessories	R4,000	
10. Stan-Optical Holdings Limited	30th December, 1970	Industrial holding company	R1,383,785	
(a) Standard Optical Company (Pty) Limited	28th January, 1947	Optical manufacturers and wholesalers	R188,000	
(b) Standard Optical Company (Hats) Limited	11th January, 1964	Optical manufacturers and wholesalers	R840	
(c) M. H. Scientific Sales (Pty) Limited	28th June, 1957	Distributors of sunglasses	R1,000	1st January, 1972
(d) Colin Field Contact Lens Laboratories (Pty) Limited	7th October, 1968	Contact lens manufacturers	R100	
(e) Opticare (Pty) Limited	8th June, 1967	Spectacle manufacturers	R2	
(f) Sim and Bennis (Pty) Limited	14th December, 1932	Optometrists and dispensing opticians	R12,000	
11. Universal Metal Holdings (Pty) Limited	24th March, 1969	Industrial holding company	R2	
(a) Universal Metal Merchants (Pty) Limited	8th June, 1964		R250	
(b) Baled Metals (Pty) Limited	11th March, 1953		R200	
(c) Goldfields Metal Merchants (Pty) Limited	10th November, 1958		R200	
(d) Acho Metals (Pty) Limited	2nd December, 1958	Metal reclamation merchants	R32,900	
(e) Walter Metals (Pty) Limited	23rd March, 1955		R500	
(f) M. & P. Metals (Pty) Limited	8th August, 1955		R250	
(g) Hercules Metals (Pty) Limited	25th July, 1955		R200	
(h) J. S. J. Metals (Pty) Limited	14th November, 1967		R200	
(i) Colin Mills Enterprises (Pty) Limited	3rd August, 1965		R100	
(j) Colin Mills Properties (Pty) Limited	8th June, 1964		R100	1st January, 1972
(k) Colin Mills Holdings (Pty) Limited	8th June, 1964		R100	
(l) Colin Mills Investments (Pty) Limited	4th August, 1965	Property owning companies	R100	
(m) Industrial Estate Four Four Five Welkom (Pty) Limited	19th June, 1967		R100	
(n) Beeston Street Properties (Pty) Limited	4th December, 1968		R1,000	
(o) Erf Five Seven Eight Nought (Pty) Limited	4th December, 1968		R1,000	
(p) Scott Walker (Pty) Limited	26th October, 1961		R15,004	

	Freehold land and buildings	Plant, furniture and vehicles	Total
At directors' valuation November, 1969	R'000	R'000	R'000
At professional valuations in 1970 and 1971 (as below)	1,529	—	1,529
At cost	2,700	2,143	2,700
Accumulated depreciation	3,335	2,143	5,478
Net book value, 31st December, 1972	3,335	931	4,266

Location of property	Professional valuer and qualification	Valuation amount	Date
East London	A. J. Pachonick, Sworn Appraiser and Commissioner of Oaths	120	2nd March, 1971
Cradox	P. Coetzee, Sworn Appraiser of Cradox	11	8th March, 1971
Cape Town	Leonard J. Heller, J. R. Valuer, Member of The South African Institute of Valuers.	580	18th March, 1971
Durban	N. G. M. Eyles of Herbert Penny (Pty.) Limited, 8 St. Est. Man., London	450	8th April, 1971
Johannesburg	Donald R. Curre of Richard R. Currie (Pty.) Ltd., Johannesburg, Sworn Appraiser	265	24th June, 1970
Port Elizabeth	R. K. Hancock of Ralph Hancock Ltd., A.I.V., J. J. Van Zyl of J. J. Van Zyl (Pty.) Ltd., Sworn Appraisers and Estate Agents	30	4th March, 1971
Windhoek	—	18	(Private dwelling house) 18th March, 1971
Uptington	J. D. Möller, B.A., LL.B., Sworn Appraiser	248	17th March, 1971
	—	12	(Private dwelling house) 3rd March, 1971
Bloemfontein	E. Louis Ellenberger of E. Louis Ellenberger & Co., Sworn Appraiser	85	5th March, 1971
	—	1,929	

	Company	Group
Secured by mortgage over freehold land and buildings bearing interest at 10% for an indefinite period	—	250
Secured by mortgage over freehold land and buildings, bearing interest at 10% and repayable in half-yearly instalments commencing in 1980	—	371
Secured by mortgage over freehold land and buildings, bearing interest at 8% and repayable in 1981	—	118
Secured by mortgage over freehold land and buildings, bearing interest at 8% and repayable in half-yearly instalments commencing in 1973	—	171
Secured by pledge of shares in a subsidiary bearing interest at 5% above ruling bank overdraft rate, and repayable on or before the 7th December, 1977	295	295
	—	1,103

	Company	Group
8. Share capital		
Authorised		
200,000 5% cumulative preference shares of R2 each	400,000	
5,000,000 ordinary shares of 50 cents each	2,500,000	
	R2,900,000	
Issued and fully paid		
150,000 5% cumulative preference shares of R2 each	300,000	
3,272,307 ordinary shares of 50 cents each	1,636,153	
	R1,936,153	

Of the unissued ordinary shares 1,407,693 were under the control of the directors.

	Company	Group
9. Share premium		
During the period under review share premium of R3,098,327 less share issue expenses of R6,965 was raised on the issue of ordinary shares. The share premium is subject to the restrictions of section 88 of the South African Companies Act which are similar to those of section 56 of the United Kingdom Companies Act, 1948.		
10. Capital reserve		
(a) Balance per consolidated accounts 30th June, 1971	91,115	
Add: Arising from directors' valuation of freehold land and buildings in a subsidiary company in November, 1969	211,739	
	302,854	
Adjusted balance 30th June, 1971	221,102	
Less: Excess of cost of shares in subsidiary companies over net tangible assets	81,752	
	162,348	
(b) Arising on the sale of shares in a subsidiary company	74,381	
Arising on the sale of freehold land	3,776	
Write back of investment provision	55,864	
Less: Certain expenses of relocation of a factory	185,339	
	R267,091	

- Share purchase scheme**
The amount due from employees in respect of loans made under the provisions of the scheme is R22,892.
- Contingent liabilities**
The Group had contingent liabilities at 31st December, 1972, in respect of:—
(a) Lease agreements of R151,477 discounted by a subsidiary.
(b) Guarantee of bank overdrafts of third parties amounting to R27,165 secured by the pledge of shares.
The Company had a contingent liability at 31st December, 1972 in respect of a subsidiary's bank overdraft amounting to R250,000.
- Basis of consolidation accounting**
The effective date of acquisition of those subsidiary companies acquired during the period under review, was 1st January, 1972. In the case of Universal Metal Holdings (Proprietary) Limited and Stan-Optical Holdings Limited, the split between pre and post acquisition profits is based on audited accounts. The audited accounts of Cymot Holdings Limited cover the eighteen months ended 31st December, 1972 and the division of the profits for the periods prior to and after 31st December, 1971 has been calculated by the directors on a basis approved by the auditors.

MATERIAL CHANGES

- The following material changes, for which no adjustments have been made to the profits or to the Balance Sheets included in this report, have occurred since 31st December, 1972:—
- On 21st May, 1973 the Company acquired The Union Whaling Company Limited. The consideration for this acquisition was 998,326 fully paid ordinary shares of the Company and R405,466 in cash.
 - The issue of R2,094,280 fully paid 9% unsecured partly convertible notes 1978.

ACCOUNTS

No audited accounts have been prepared by the Group since 31st December, 1972.

APPENDIX 1 — THE CYMOT GROUP PROFITS

The profits of the Cymot Group for the period from 1st July, 1967, to 31st December, 1972, are summarised below:—

	Notes	1972	1971	1970	1969	1968
Sales		R'000	R'000	R'000	R'000	R'000
Cost of sales less sundry revenue	1	8,271	5,589	5,060	4,443	4,227
Trading profit		382	385	371	304	282
Investment income		1	—	—	—	—
Profit before taxation	2	383	385	371	304	282
Taxation	3	142	162	142	124	100
Profit attributable to shareholders		241	223	229	180	182
Preference dividend		18	18	18	18	18
Profit attributable to equity		223	215	211	162	164
Ordinary dividend	4	180	127	127	127	119
Retained earnings		43	88	84	35	45

- NOTES:
- Sales**
Sales represents gross sales to third parties less trade discounts and returns.
 - Profit before taxation**
The profit before taxation is shown after making such adjustments as we consider necessary and after charging all expenses, including:—
Depreciation (See note 5)
Interest
R'000 R'000 R'000 R'000 R'000
92 62 58 45 48
184 100 70 38 28
 - Taxation**
The charge for taxation represents South African and South West African tax on the profits for each period at the appropriate rates.
 - Ordinary dividend**
The rate of dividend on ordinary shares for each period was:—
28-10% 30-00% 30-00% 30-00% 28-05%
 - Depreciation**
No depreciation is provided on buildings.
Other assets are depreciated at rates which will write off their costs over their anticipated useful lives.
 - Directors' emoluments**
The aggregate emoluments of the directors for the period ended 31st December, 1972, amounted to R48,818.

BASIS OF CONSOLIDATION

The profits include the results of Cymot Limited for the period since 18th June, 1971, the date of incorporation.

APPENDIX 2 — THE STANOPTICAL GROUP PROFITS

The profits of the Stanoptical Group for the period from 1st July, 1967 to 31st December, 1972 are summarised below:—

	Notes	1972	1971	1970	1969	1968
Sales		R'000	R'000	R'000	R'000	R'000
Cost of sales less sundry revenue	1	1,775	1,584	1,893	803	783
Trading profit		260	218	288	149	94
Investment income		1	2	—	—	—
Profit before taxation	2	261	217	288	149	94
Taxation	3	86	84	120	85	31
Profit attributable to equity		163	133	178	64	63
Ordinary dividend	4	42	50	—	1	—
Retained earnings		111	83	178	63	63

- NOTES:
- Sales**
Sales represents gross sales to third parties less trade discounts and returns.
 - Profit before taxation**
The profit before taxation is shown after making such adjustments as we consider necessary and after charging all expenses, including:—
Depreciation (see note 5)
Interest
R'000 R'000 R'000 R'000 R'000
3 18 21 10 7
3 5 1 1 4
 - Taxation**
The charge for taxation represents South African tax on the profits for each period at the appropriate rates.
 - Ordinary dividend**
The rate of dividend on ordinary shares for each period was:—
2-97% 2-55% — — 3-00%
 - Depreciation**
Fixed assets are depreciated at rates which will write off their costs over their anticipated useful lives.
 - Directors' emoluments**
The aggregate emoluments of the directors for the year ended 31st December, 1972, amounted to R18,883.

BASIS OF CONSOLIDATION

Stan-Optical Holdings Limited was incorporated on 30th December, 1970 but the profits have been computed on the basis that the Group had existed for the entire period from 1st July, 1967 to 31st December, 1972. The profits include the results of the six companies which became subsidiaries on 30th December, 1970 for the whole period and the results of Stan-Optical Holdings Limited for the period since that date.

APPENDIX 3 — THE UNIMETAL GROUP PROFITS

The profits of the Unimetal Group for the period from 1st March, 1968, to 31st December, 1972, are summarised below:—

	Notes	1972	1971	1970	1969	1968
Sales		R'000	R'000	R'000	R'000	R'000
Cost of sales less sundry revenue	1	3,572	2,947	2,871	1,353	1,435
Trading profit		320	150	341	219	290
Taxation	3	132	65	137	89	107
Profit attributable to equity		188	125	204	130	183
Ordinary dividend	4	118	175	—	—	—
Retained earnings		70	(50)	204	130	183

- NOTES:
- Sales**
Sales represents gross sales to third parties less trade discounts and returns.
 - Profit before taxation**
The profit before taxation is shown after making such adjustments as we consider necessary and after charging all expenses, including:—
Depreciation (See note 5)
Interest
R'000 R'000 R'000 R'000 R'000
73 37 25 14 14
 - Taxation**
The charge for taxation represents South African tax on the profits for each period at the appropriate rates.
 - Ordinary dividend**
The amount of dividend on each of the two issued ordinary shares for each period was:—
R'000 R'000 R'000 R'000 R'000
59 87 5 — —
 - Depreciation**
No depreciation is provided on buildings.
Other assets are depreciated at rates which will write off their costs over their anticipated useful lives.
 - Directors' emoluments**
The aggregate emoluments of the directors for the year ended 31st December, 1972, amounted to R112,623.

BASIS OF CONSOLIDATION

Universal Metal Holdings (Proprietary) Limited was incorporated on 24th March, 1968, but the profits have been computed on the basis that the Group had existed for the entire period from 1st March, 1968, to 31st December, 1972. The profits include the results of nine of the companies which were owned by the original shareholders of Universal Metal Holdings (Proprietary) Limited for the entire period and became subsidiaries on 24th March, 1969, and the results of the following companies for the periods since the dates of incorporation or acquisition as shown below:

Baled Metals (Proprietary) Limited—acquired 1st July, 1968.
Acho Metals (Proprietary) Limited—acquired 2nd December, 1968.
Beeston Street Properties (Proprietary) Limited—acquired 4th December, 1968.
Erf Five Seven Eight Nought (Proprietary) Limited—acquired 24th March, 1969.
Universal Metal Holdings (Proprietary) Limited—acquired 24th March, 1969.
Hercules Metals (Proprietary) Limited—acquired 1st January, 1970.
Scott Walker (Proprietary) Limited—acquired 1st March, 1971.
J. S. J. Metals (Proprietary) Limited—acquired 1st January, 1972.

Yours faithfully,

WHITLEY BROTHERS,
Chartered Accountants (S.A.),

TANSLEY WITT & CO.,
Chartered Accountants

Union Whaling

On 21st May, 1973 the Company acquired Union Whaling which has one non-trading subsidiary, Premier Whaling Company Limited ("Premier Whaling"). There is set out below a table of Union Whaling's profits for the last five years and its Balance Sheet at 30th September, 1972. The table and the Balance Sheet have been extracted from the audit accounts.

PROFITS

	Notes	1972	1971	1970	1969	1968
Sales of whale products	1	R'000	R'000	R'000	R'000	R'000
Less cost of sales		3,120	2,837	2,130	2,007	1,4
		2,321	2,020	1,780	1,701	1,4
Trading profit		799	817	350	306	—
Less profit		71	78	73	14	—
Other operations		50	44	31	30	—
Investment and other income	2	—	—	—	—	—
		820	739	350	350	—
		101	80	74	81	—
Less Administration and sundry expenses		—	—	—	—	—
Profit before taxation	3	819	649	380	289	—
Taxation (1968 write back)	4	812	188	53	—	(2)
Profit after taxation		87	460	327	289	2
Extraordinary items	5	(197)	—	(100)	—	1,9
Surplus attributable to equity		704	460	427	289	1,9
Ordinary dividend	6	350	350	280	238	—
Retained earnings		354	110	147	51	(1,7)
Transfer to special maintenance reserve		300	—	—	—	—
		54	110	147	51	(1,7)

NOTES:

- Sales**
Sales represents gross sales to third parties.
- Investment and other income**
Income from trade investments
Income from quoted investments
Interest
Property revenue
R'000 R'000 R'000 R'000 R'000
8 4 — — —
28 10 14 12 —
9 8 4 4 —
50 44 31 30 —
- Profit before taxation**
The profit before taxation is shown after making such adjustments as were considered necessary and after charging all expenses, including:—
Depreciation (See note 7)
Surplus on disposal of fixed assets
R'000 R'000 R'000 R'000 R'000
89 78 82 81 12
2 2 12 12 —
- Taxation**
South African taxation
Deferred taxation
R'000 R'000 R'000 R'000 R'000
247 113 4 — —
85 78 48 — —
312 189 53 — —
- Extraordinary items**
The extraordinary items comprise:
Special depreciation of whaling fleet
Net capital surplus on realisation of investments
R'000 R'000 R'000 R'000 R'000
187 — 100 — —
187 — 100 — —
- Ordinary dividend**
The rate of ordinary dividend for each period was:—
125% 125% 100% 85% 2
- Depreciation**
Buildings and other assets are depreciated over their anticipated useful lives.
- Directors' emoluments**
The aggregate amount of directors' emoluments was
R'000 R'000 R'000 R'000 R'000
11 12 12 11 11

BALANCE SHEET AT 30th SEPTEMBER 1972

	Notes	R'000	R'000
Current Assets			

REMARKS AND EVALUATION

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